85th YEAR

AMERICAN GAS JOURNAL

JULY 1944

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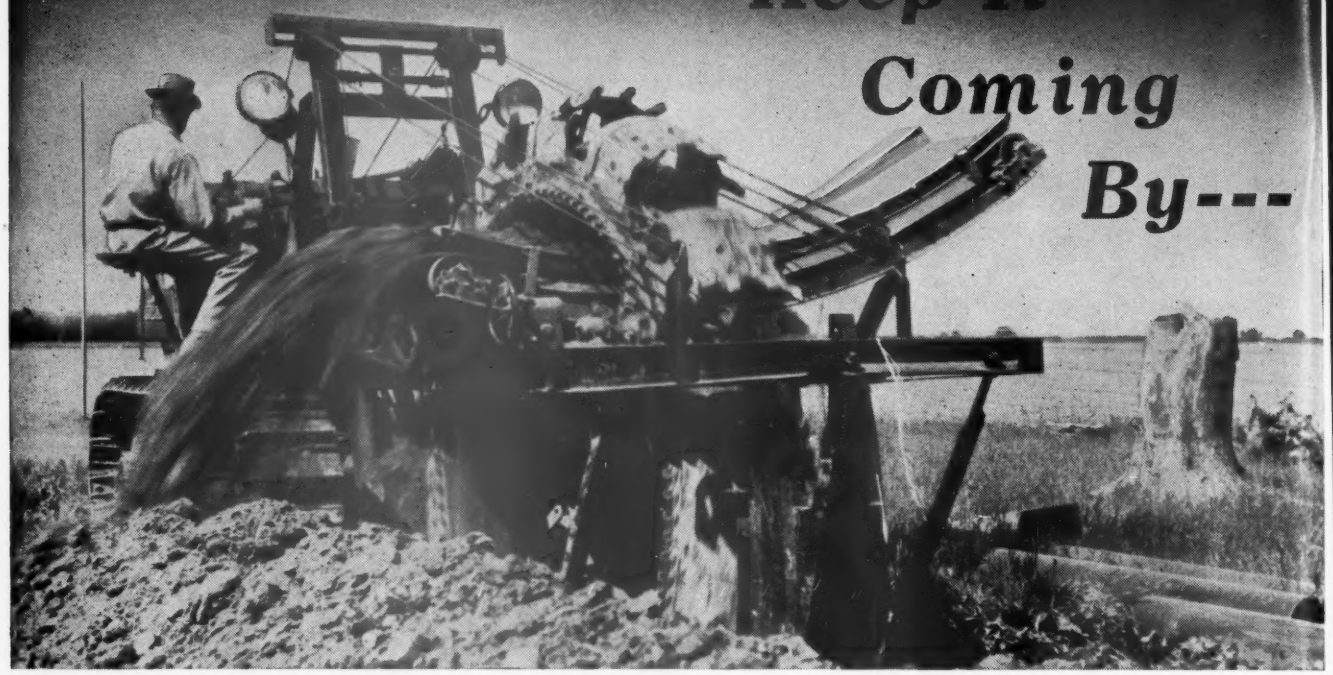
More Dirt Off the Conveyor On Your "CLEVELANDS" Keep It Coming By---



. . . following these suggestions. They will assure your cashing-in, regularly, on your "CLEVELANDS" built-in ruggedness and productive performance.

- Lubricate thoroughly and regularly. When lubricating, make certain that all fittings are open and all bearings taking grease. Be sure to replace any broken or damaged fittings. It is good practice when moving or "Roading" any distance over 2 miles, to stop machine and completely lubricate crawler system.
- When making spot lubrication, check machine for loose or broken bolts. Tighten the loose bolts and replace any broken ones. Also check for broken strands in cables, worn or broken links in chain and worn brake and clutch facings, and replace at once all damaged parts.
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- Check coolant in radiator. The level should be at or near overflow when hot. If contaminated with oil, rust or dirt, it should be changed.
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Q. *Are all REVERSE FLOW Water Gas Machines Semet-Solvay Machines?*

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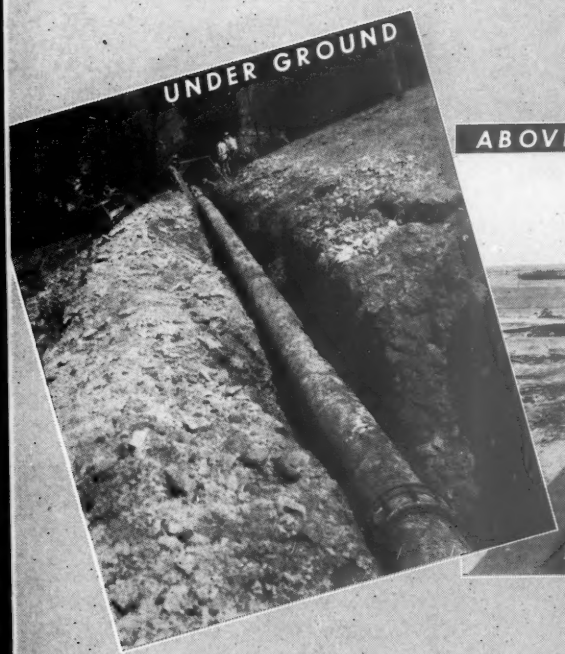

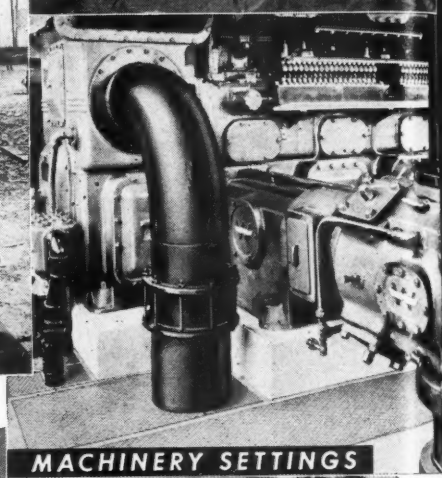

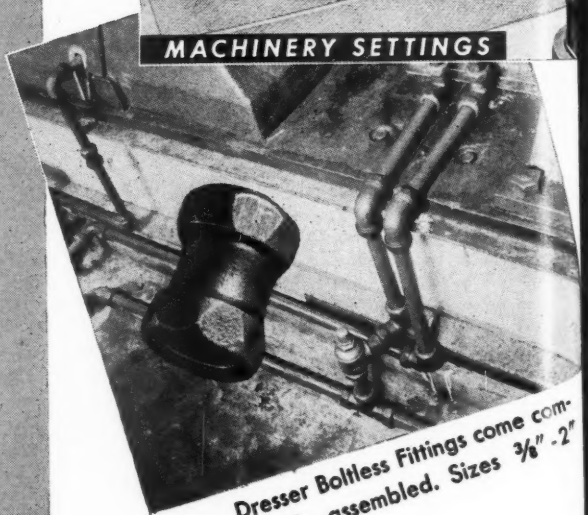

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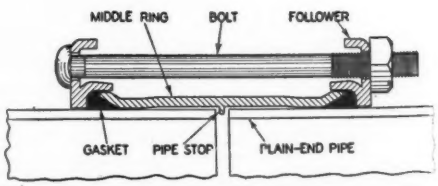

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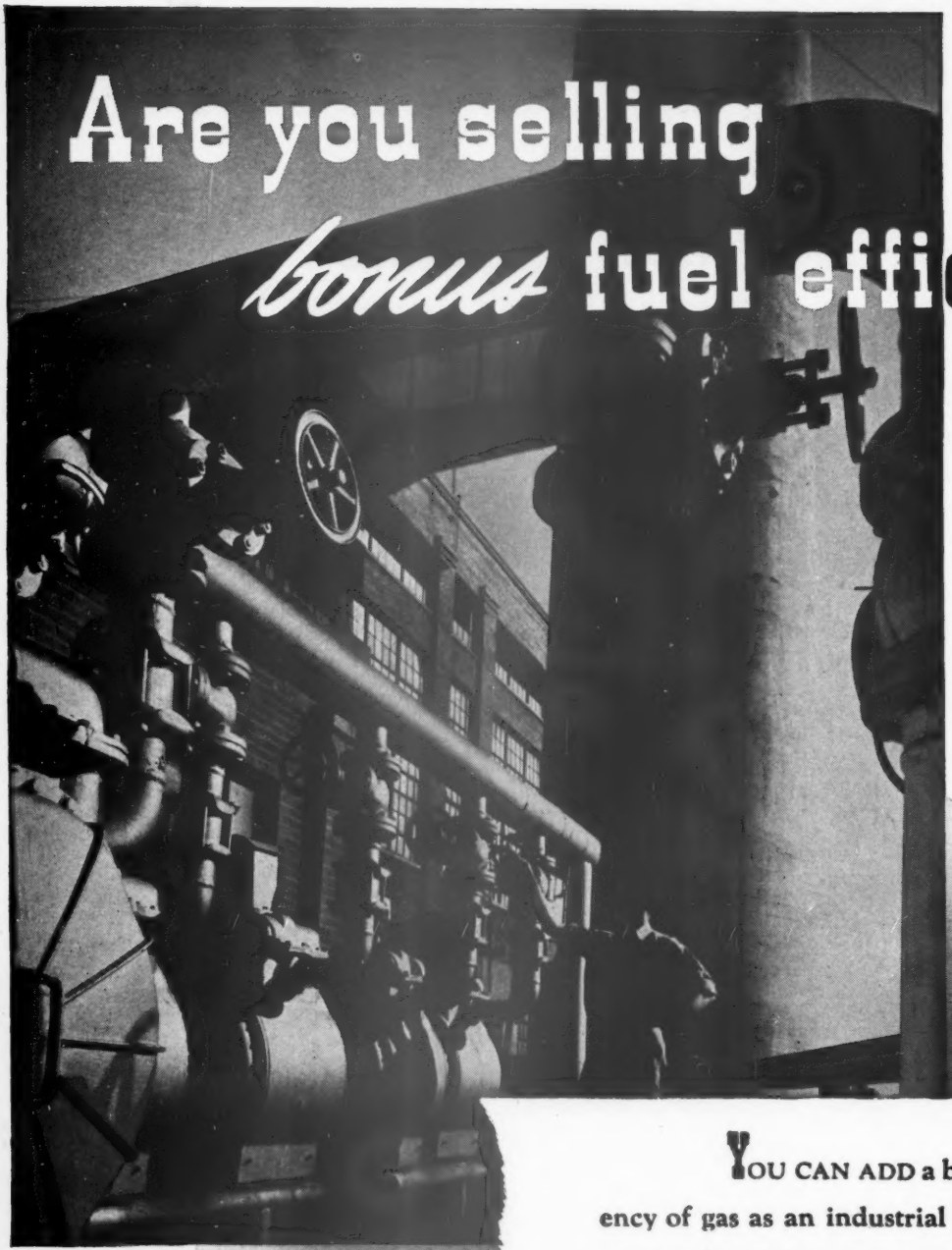

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JULY
1944

AMERICAN
GAS JOURNAL

VOLUME 161
NO. 1

The Rockwell Master Plan for Post-War Unemployment Compensation

IN an address before a press luncheon at the Waldorf Astoria Hotel, New York, on June 9th, Colonel Willard F. Rockwell, noted Pittsburgh and Detroit industrialist, and well known to the gas industry as executive head of the Pittsburgh Equitable Meter Company, unfolded for his hearers and for the American business world in general his comprehensive plan for post-war unemployment compensation.

Although, and naturally, the plan is confined at present to the industrial companies engaged in the production of supplies for the armed forces, and having contracts subject to renegotiation, it is the opinion of the JOURNAL that all gas utilities will be greatly interested in it for a number of reasons, chiefly, of course, because it insures protection to labor in their own communities. It is not to exaggerate to state that all of the great war plants are direct customers of the gas companies, and, of course, in a majority of instances the employees of these plants are gas consumers also.

There have been many post-war plans in the recent past which have had for their aim this same objective, but, in our opinion, no one of them has been so simple, so logical, or so workable as that now set forth by Col. Rockwell. It is a broad, statesmanlike plan, clearly and intelligently formulated, and apparently foolproof. It shows evidence, too, of being the product of deep thought and long and careful preparation. It is fair to labor, industry, and the government, and, provides an intelligent basis for immediate procedure toward the post-war that can not be delayed indefinitely, and ultimately must be faced.

An analysis of the Plan by S. G. Krake.

In his preamble, Colonel Rockwell points out the seriousness of the post-war period will be for both industry and labor, even more serious, in his opinion ,than the depression of the early thirties, when there were nearly 15 million unemployed. He realizes that measures must be taken to meet the repercussions that are bound to come in the wake of the armistice. Just a return to peace-time operations will not be enough. If normal practices were followed in a reversion to peace-time activity it might throw 20 million persons out of work, temporarily at least, for not even the most optimistic industrialist believes that reconversion will be an overnight matter, but gradual transition, with extremes of from a year to eighteen mothns, although it is recognized that some industries will require no conversion at all, while in others it will be a matter of days or weeks.

Reconversion

However, no matter what the period required for reconversion, the hour of crisis will come, and must be met if economic bankruptcy is to be avoided. The chief single problem before the country will be to put people back to work, or to continue to pay them a fair wage for at least six months. It was fallacious to imagine that a majority of the companies now engaged in manufacturing war materials could maintain their present personnel after the war. He cited as a typical example four of his own related companies, Timken-Detroit Axle Company, Standard Steel Spring Company, Hupp Motor, and Pittsburgh Equitable Meter. These companies, he stated, were now employing an aggregate of 21,000, where normally 7,000 was the maximum. Of the regular employees, more than half are in the armed services, so that, if these were to be re-employed, as guaranteed, 17,500 of the men and women now working for the four companies concerned would have to be laid off when the present war activities are discontinued, and for the very good reason that there would not be room for more than 7,000 on the payrolls when normal peace-time production has been resumed.

Col. W. F. Rockwell

Colonel Rockwell expressed himself as greatly pleased that the national consciousness at last was being aroused to the importance of a balanced and workable plan of unemployment compensation adequate to meet the emergency. But such a plan should not be merely a makeshift, but erected intelligently on the foundation stone of free enterprise, which, in his opinion, is the only method in a democracy of maintaining "high standards of living, maximum employment, and decent wages."

To look to the Government for a solution of the great post-war problem was fallacious, the Colonel held. Even Bernard Baruch, in the notable

Baruch-Hancock report, had stated as a fundamental the inability of government to create prosperity.

The Necessity for a Post-War Unemployment Plan

This growing national consciousness of the necessity for some practical post-war plan for unemployment compensation he held to be sound and progressive, but such a plan would have to take into consideration other factors involved, such as adequate legislation for the renegotiation of war contract termination, but should not be the wagon to which a multitude of unrelated schemes such as interim unemployment compensation, vocational training, or other schemes for handling the problems that are bound to come with a return of peace.

Before propounding his own plan for post-war unemployment compensation, Colonel Rockwell went into the subject of contract renegotiation at considerable length. He held, he said, no valid argument against renegotiation in principle, but he disagreed entirely with it in its present application and administration. Set up as a purely protective device, it was being utilized as a punitive weapon, and as such was harmful both to labor and industry. Of course, there were those that maintained that industry had sufficient resources to invest in post-war preparedness, leaving settlement of their contract claims against the Government until later. However, such a contention was untenable. There might be a few companies who had the necessary reserves to carry on, but they were in the minority. Excess profit taxes were wringing out every penny of profit from most companies, leaving them nothing out of which to build reserves after the payment of dividends and interest charges. Every penny they now earn above these requirements is now subject to renegotiation.

It was out of this intolerable situation, and because of it, that Colonel Rockwell evolved the comprehensive plan that he believes is an intelligent formula to meet the pending post-war crisis; a plan that he has already asked the Government's permission to institute for his own controlled companies. It is Colonel Rockwell's belief that the plan will appeal to a majority of business executives faced with similar problems.

Fundamentally, the Rockwell Post-War Unemployment Compensation Plan demands that business assume the obligations and control of its employees' post-war unemployment compensation, including those now temporarily in the armed services.

The Rockwell Plan, as outlined, at the press luncheon, has six major provisions. These are:

1. **Every company engaged in whole or substantial part with war production, be permitted to withhold from 1943, 1944 and 1945 gross income after taxes and normal profit, and before renegotiation, a sum up to the equal of one average week's wage or salary for each month of continuous employment of each person on the payroll, with a maximum total equal to 24 weeks wage or salary for employees who have worked for two years or more.**
2. **Based upon the same formula, an equal sum to be withheld for each ex-employee now servin the armed forces, with the same maximum and minimum withholdings operative.**
3. **These funds shall be held by each company. A complete record of such withholdings, together with the record of each active employee, plus those serving in the armed forces, shall be sent to the Social Security Board. Payments out of the fund shall also be recorded with the Social Security Board. These records shall be available to the public.**
4. **Disbursements of these funds to unemployed workers will start at the time of complete cancellation of war contracts. Or in the instance of graduated contract cancellations due to readjustments in the war production program, a joint labor-management committee in each plant shall determine the mutually satisfactory point at which disbursements shall start. In the case of ex-employees returning from the armed forces, payment shall start upon personal application of each ex-employee.**
5. **Disbursements are to be made at a rate in conformity with the maximum and minimum established by state or federal governments for unemployment compensation, until (a) a job of comparable skill and compensation to the one last held shall be made available to each person entitled to these benefits, or, (b) until such time as the total benefits accruing to each individual employee are completely disbursed, or (c) until other employment is obtained by each person entitled to these benefits.**
6. **At the end of two years after complete settlement of all terminated war contracts, all withheld funds not disbursed by the companies operating under this plan shall be paid to the federal government.**

Proper Disposal of Surpluses Important

Having thus announced his plan Colonel Rockwell then proceeded to amplify and clarify it. Before any such program could be adopted, however, he thought that provision must first be made for the orderly disposal of any surpluses of raw materials, commodities, and semi-finished or completely finished products, together with the faciilties that produced them. This he might have made an additional point in his plan, for it was just as important as those already laid down. Orderly readjustment of this situation was extremely important, because these huge surpluses, uncontrolled, might create wide disorganization of business, and with disastrous results.

These surpluses were large now, and if the war were to continue indefinitely they might reach the staggering total of 50 billion dollars. The disrupting effect of such huge supplies on general business could only be harmful. To meet the situation, Colonel Rockwell advocated the establishment of a joint board of business executives and labor leaders who would study the problem from every angle, and suggest remedies. The time for such study, he felt, was now, otherwise reconversion would be extremely complex for many companies, compelling them to manufacture an entire new range of products.

Proceeding to amplify his plan, Colonel Rockwell stressed the fact that his suggestion that certain funds be set aside out of profits as a reserve fund for unemployment compensation was not intended to destroy the safeguards imposed by renegotiation. It was merely intended to be a curb on the practice of using renegotiation as a punitive or political weapon, and to an extent, also, as a curb on unbridled expenditures on the part of government procurement agencies. "Let me repeat again," said Colonel Rockwell, "I am not a foe of renegotiation in principle. It is only in the present and future indiscriminate application of renegotia-

tion that I find such inherent evil."

Through his plan, Colonel Rockwell proposed to protect post-war employment through reserves which industry could set aside from war profits, funds, by the way, that were now subject to renegotiation. This, he maintained, would be a legitimate and legal procedure, and economically sound. Industry, to go forward, must have a continuous and free-flowing blood stream of new capital, and adequate returns on the investments made, or otherwise such essential new funds would not be forthcoming. A profit that did not provide reserves for known contingencies was no profit at all. The only alternative to withholding funds before renegotiation if one were to provide the reserves to provide for post-war unemployment was to stop paying dividends. This under the country's system of free enterprise, of course, was unthinkable.

Expanding his treatise, Colonel Rockwell continued:

"Neither have I any argument with the various proposals to provide training facilities for those who were called into the armed forces before their education was completed. This also is just and equitable. This country requires an ever fresh supply of brain power, and every progressive business man recognizes that the youth of the nation, afforded full access to the advantages of education, is the source from which we shall draw the future Fords, Edisons, and other great minds of our coming generations. However, all the men and women in the armed forces are not of school age. Recently released labor statistics state that 42 per cent of the members of the armed forces, as of February, 1943, were from factories. Unions claim that 3,000,000 of their members are now serving in the army and navy. Certainly they must have left jobs to go to war.

"Do we dare offer these returning soldiers and sailors a dole instead of an opportunity to work?" continued the Colonel. "Dare we set aside a segment of society, and say in effect, 'You need not work, the Government will support you?' I have an abiding belief that these ex-service men and women will indignantly repudiate any such attempts to subsidize them, a belief that is borne out by many letters I have received from our ex-employees now serving in the armed forces. In almost every instance they have expressed concern over their post-war jobs. 'We do not mind the filth, the mud, the danger, and the physical discomforts so much as we do the uncertainty of what will await us when we return looking for our pre-war jobs,' wrote one of our ex-employees.

"It has been proposed that ex-members of the armed forces be granted loans, with the government guaranteeing them up to 50 percent of their face value. Where in the name of heaven are these men and women, fresh from fighting fronts, going to obtain the collateral to secure the balance of such loans? Still others propose to turn government built plants over to veterans for operation. Can you imagine how long these plants would remain in their possession squeezed as they would be between lack of capital and peacetime competition?

"Let us get back to common sense in our dealing with this problem. Let us place the responsibility where it belongs:—in the hands of industry. After all, industry now bears the responsibility for taxes. Industry bears contractual responsibilities to labor. Why, then, should industry not handle the administration of unemployment compensation?

"Bear in mind that the plan we propose will eliminate bureaucracy from the handling of these funds. It will dignify the interim compensation support between employer and employee, and not reduce this security to the status of the dole, which experience shows begets unemployment.

"Still another feature is the added incentive provided under this plan for industries to reconvert in the minimum possible time. By so doing they can return their employees to profitable production, and utilize the unexpended portions of such funds for plant conversion.

"The experience of labor-management committees in thousands of war plants conclusively demonstrates that a well-functioning committee can handle almost any dispute or problem which may arise. Certainly such committees are qualified to handle unemployment problems that will attend temporary or partial readjustments and cutbacks. They may apply the rule of thumb in their solutions but I am certain they will accomplish more practical results when and where needed, than those that would accrue from an agency or bureau directive.

No Undue Advantage to Accrue

"Another element in the plan provides that none shall obtain undue advantage in the amount or extent of unemployment payments. We propose that a national scale be established compatible with the maximum and minimum state scales, or that, failing such action, plants located in say the State of Michigan shall maintain the maximum and minimum payments of that state. Thus, no worker would obtain any monetary advantage by virtue of having worked in a war plant, nor would the civilian worker who stayed on the job during the war, then having lost his income, be in a position to obtain a greater amount than the war worker.

"The individual payments to be made during reconversion can certainly not be described as large. But the simple principle of unemployment compensation is that such payments have never been intended to provide more than an interim income, designed to tide the insured over until there is a return to normal income-producing employment. Any permanent, or semi-permanent arrangement, can only be construed as a form of state socialism.

"I should like to emphasize the fact that industry does not permanently benefit under our plan. Under the provisions, as we have outlined them, all unexpended funds from this withholding, two years after final contract settlements, would be paid by industry to the government in the shape of windfall taxes. In the interim, and because such settlements will certainly be more or less delayed, available balances could be used for physical reconversion and other business necessities. Industry's responsibility is fixed as these funds are a prior lien, just like tax funds. Such an arrangement would act as a spur to contract settlements. Certainly it would act as a spur to industry to get their employees back on the production lines. This is a tangible advantage industry would obtain under our plan. There is one great virtue, from our viewpoint—under such a plan bureaucracy will have one less hand in the pockets and policies of business.

"Our government is appropriating gigantic sums for the International Labor Organization, the World Bank and the UNRRA. Billions of dollars of our money are to be poured into these projects that can have but little favorable bearing upon our problems and wants here at home. In this country some would bait labor with foolish or Utopian dream plans.

"According to the news reports, the national war agencies established to direct war production are frantically seeking to perpetuate themselves, and to expand their fields of operation and power in the post-war world. Some would even endorse a form of international WPA, supported solely, of course, by the U.S.A. These groups do not produce. Their directors do not have

to meet payrolls. They have no customers to please, no competition to meet.

"Under private enterprise, if management understates costs, or overstates market demands, resulting in severe financial losses, stockholders demand a change in that management. But during the war we have seen government agencies underestimate costs on hundreds of projects, and over-estimate requirements so that billions of dollars have been lost. However, because these figures are so astronomical, there has been little demand for drastic change in government agencies as the average taxpayer does not realize the extent of his individual loss. Some day the nation's taxpayers will realize that the country's increased debt, caused in part by this extravagance and mismanagement, has mortgaged one-half of our total national assets.

"If some such plan as ours is not adopted it is obvious that many states will be unable to handle the volume of unemployment compensation claims that will be presented in the period of reconversion. This can only result in one of two situations, either the Federal government will have to extend heavy financial aid to these states, or we shall have unemployment without interim compensation. Should the former happen we will shoulder an additional tax burden that will stagger industry and individual alike. If the latter comes to pass, we shall have another unholy depression with its attendant breadlines, WPA, apple-sellers, and the misery of knowing that it could have been avoided.

"I have a deep-rooted conviction that the business and labor leaders of America can meet the challenge of post-war problems. We may not solve these problems in a manner that will make headlines in history, but if we are guided by the fundamental principles that made our country the great, strong nation it is today, we shall triumph over the pitfalls of peace just as we are so magnificently meeting the insatiable demands of this war."

We do not claim that the Rockwell Post-War Unemployment Plan is perfect, but we do say unreservedly that it is more far-reaching and practical than any program yet formulated for the protection of the worker.

Some Comments on Post-war Electric Competition

WHEREVER there is a gathering of gas men, the subject of electric competition for our domestic gas load is discussed and emphasized that it will be very severe. Some who discuss the subject would seem to indicate that we are bound to lose a lot of our domestic load, especially the cooking load.

This is not a new problem for we have had electric competition for the domestic cooking load for several years, in fact since its advent in 1910.

Yet, in 1941, 2,400,000 gas ranges were shipped by the manufacturers, in spite of the large advertising and sales promotion campaigns carried on at that time by the electric range manufacturers.

This is what a prominent mid-west gas company executive had to say about the gas range.

"Let's look at the gas range. At the flick of a finger you have two thousand degrees under your cooking vessels. At another flick it is all off. No slowness at the start, no lingering heat at the finish. What other fuel known to man has got this? Certainly electricity has not. Certainly wood, oil or corn cobs have not got this.

"In the oven we have the throttling thermostat that gives you just the heat you want, and if you want to maintain that oven at 350 degrees, within five or six degrees, you can do it. The heat source of the electric oven, however, is all off or all on, no intermediate points, and if the thermostat cuts off at 350 degrees, the oven temperature must drop 70 degrees before it comes on again.

"The gas oven has free circulation and free ventilation, not restricted circulation and restricted ventilation. The broiler operation —we don't have to say much about the broiling operation because with the controlled flame and the smokeless broiler, you can get your steak just as black on the outside and pinker or redder on the inside—any way you want it, or variations.

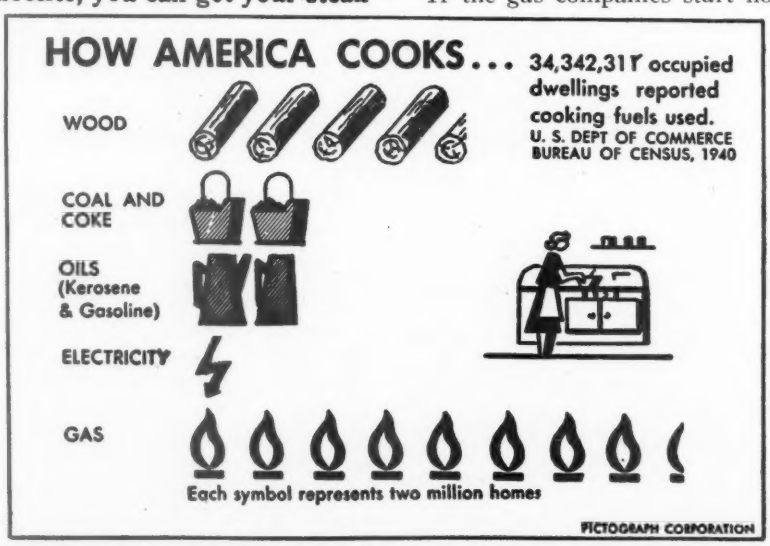
"Can this be done on the electric range?

"So why all this propaganda of fear? We have the only fuel known to man that will do all this—the controlled gas flame—with speed, flexibility, economy and cleanliness.

"The controlled gas flame is the greatest asset to the gas industry, and what have we said about it in the past? I have never heard. In pre-war, post-war, or any name you want to call it, the controlled flame is fundamental to the existence of man, not only in the kitchen, but elsewhere, and we have got it in our business, certainly as far as the cooking load is concerned.

"We should be glad that we have competition because competition has forced us to better appliances with better flames, and better controls."

If the gas companies start now to formulate a comprehensive advertising and sales promotion campaign, ready to be put into operation as soon as appliances are available, then the gas industry will get its big share of the new cooking load and retain most of its present load. It is important that these plans be prepared in advance so that we can start rolling at the earliest moment. The competition is doing just this, so don't let them get a head start.



A.G.A. Joint Production and Chemical Committee Conference

L to R: L. J. Eck, Minneapolis Gas Light Company, Minneapolis; C. F. Turner, Chairman, Technical Section, Cleveland; L. E. Knowlton, Vice Chairman, Technical Section, Providence.
Photo, A. Gordon King

The meeting held in New York June 6th and 7th was attended by over 400 gas men, who participated in a program that included subjects for discussion of importance to the industry under present conditions.

V. J. Altieri, Chairman of Chemical Committee, presided at the opening session June 6th and briefly outlined the scope of the program. Major Forward, Managing Director A.G.A., addressed the meeting briefly and was followed by E. R. Acker, President A.G.A.

Mr. Acker said in part:—

"It is perfectly obvious that anything which is to be accomplished, anything that is being accomplished today in that great theatre of war is being accomplished through cooperation and through having a common purpose.

"Success comes about only through preparation and that we need in our industry. That is one of the things for which you are meeting here today and I am sure that something will come out of this meeting which will bear fruit in the preparation for the postwar world. All of this preparation, cooperation, must be translated into action.

"So far as cooperation is concerned, I think that the Technical Section of the Association is outstanding in its demonstration of that very important factor. It has constantly made available to the industry through interchange of vital information, matters of importance to all of the membership in the Association. I think that in the inter-change of information throughout the industry in the technical and operating branches of the industry, that is one of the most outstanding factors in the success we have had to date in meeting the competition of other fuels.

"Our job in the future is to pull these activities together and to face a business problem and that business problem is just this: Can we in the postwar world so fix the cost of our product that gas can be sold at a profit and at a price which the consumer will pay?

"The gas industry can be reasonably sure as to the price which the customer will pay. Particularly as a result of studies of the Postwar Planning Committee of postwar purchasing power, they indicate that the price which the customer will pay is largely determined by competition. I feel that the most important question before the operating and technical men of this industry is to determine what our future costs may be.

"It isn't a question of saying to the sales department: "We'll make the gas—you sell it"—or of the sales department saying: "We could sell the gas if you get the price down." We are all in the same boat and have a common responsibility. We have a business problem before us and my plea is for the Technical Section of the industry, the Sales Section of the industry and every other section to look at this problem on an overall basis and to consider that they are a part of the whole structure in finding the answer to this business problem."

Z. C. Wagoner, Amherst Fuel Co., Charleston, W. Va., discussed the available reserves of special quality coals. He said the coal purchasers of the future will demand improved quality of coal and the producers would endeavor to meet that demand. Progress of coal research at the U. S. Bureau of Mines was discussed by J. D. Davis, U. S. Bureau of Mines, Pittsburgh, Pa.

Reports on gas conditioning, by H. D. Lehman, Chairman Gas Conditioning Committee, and Dr. E. W. Guernsey, Baltimore, and on safe manufacturing gas operation, by Charles Koons, Chairman, followed.

LEFT: V. J. Altieri, Chairman, Chemical Committee, Everett, Mass.; Dr. C. W. Wilson, Vice Chairman, Chemical Committee, Baltimore.

CENTER: R. Van Vliet, Vice Chairman Gas Production Committee, Staten Island, N. Y., and H. D. Lehman, Chairman, Gas Conditioning Committee, Philadelphia.

RIGHT: T. H. Kendall, Vice Chairman, Distribution Committee, Pittsburgh, and A. C. Cherry, Chairman, Distribution Committee, Cincinnati.
Photos, A. Gordon King

Left: Genial Billy Steinwedell assisted by T. F. Papen of Worcester, introduces Herbert C. Jones of Boston to Norden R. Jones of Havana.

RIGHT: P. T. Dashiell, The Philadelphia Gas Works Company, Philadelphia, (author of "Gas Enriching Oil From the Viewpoint of the Gas Industry") and A. C. Sedlachek, Chairman, Luncheon Conference Committee, Philadelphia, (Gas Production Committee).

Photos, A. Gordon King

The afternoon session was conducted by R. Van Vliet, Vice Chairman, Gas Production Committee, in the absence of F. J. Pfluke, Chairman, Rochester, N. Y., due to illness. However, A. Gordon King, Secretary of the meeting, had Mr. Pfluke say a few words to the meeting by telephone from Rochester.

A report by L. G. Kreuz, Chairman subcommittee on High B.t.u. Gas, Detroit, Mich., was presented. The report was a review of processes in use and available for high B.t.u. gas production, together with a record of companies maintaining high B.t.u. stand-by facilities. Methods, capacities and extent of production are also outlined and bibliography of published reports is included.

J. V. Postles, Philadelphia, Chairman, Technical Committee on Post-War Planning Cooperation, presented a report of his committee, and A. M. Beebee, Chairman, A.G.A. Post-War Planning Committee, outlined the work of his subcommittee and stressed the importance of mobilizing for the post-war program.

George S. Hawley, Chairman, Manufactured Gas Department, American Gas Association, reviewed the history of gas associations down to the present. He stated that fourteen gas associations were represented at the Louisiana Purchase Exposition, held at St. Louis, Mo., in 1905.

The "Use of Oxygen in Gas Production" was the subject discussed by Dr. S. P. Burke, Columbia University, New York. Dr. Burke is chairman of a newly created committee to bring the industry up to date on possible uses of oxygen in gas production. This subject was before the industry several years ago, but at that time the cost of oxygen was prohibitive. Dr. Burke reviewed the research work in this connection, and stated that oxygen now was about 14 cents, and that this cost would probably be reduced as more oxygen plants went into production.

An abstract of the paper presented by George R. Steere, Swampscott, Mass., on "Means of Increasing Carburetted Water Gas Set Capacity" will be found elsewhere in this issue of the JOURNAL.

A report on "Mixed Gas Research," was presented Wednesday morning by H. O. Loebell, Chairman, Mixed Gas Research Committee. The research work is sponsored jointly by the Natural Gas Department and the Technical Section of the American Gas Association on the use of substitute gases for natural gas and for mixed natural and manufactured gas of from 800 to 1200 B.t.u. per cu. ft. is an extension of

L to R: John D. Alden, Asbury Park, N. J.; Thomas B. Williams, Taunton Gas Light Company, Taunton, Mass. Louis Shnidman, Chairman, Luncheon Conference Committee, Chemical Com.; V. J. Altieri, Chairman, Chemical Committee, Everett, Mass.

Photos, A. Gordon King

L to R: L. J. Willien, Gas Institute of Technology, Chicago; V. J. Altieri, Chairman, Chemical Committee, Everett, Mass; Guy Corfield, Chairman, Chemical Committee, Subcommittee on Pacific Coast Activities, Southern California Gas Co., Los Angeles, author of paper "Butadiene Manufacture".

Photo, A. Gordon King

earlier work on gases of less than 700 B.t.u. per cu. ft. and includes determining limiting conditions of interchangeability as established by the group of control appliances.

O. W. Barenscher, Wisconsin Public Service Corp., Sheboygan, Wis., presented a paper on "Carburetted Water Gas as a Substitute for Coke Oven Gas." This paper covers a method of operation which has been successfully used to produce a 100% substitute for coke oven gas in a water gas machine. The process is simply the production of regular water gas of a B.t.u. sufficiently high to compensate for the increased gravity. It will be published in full in a future issue of the JOURNAL.

Guy Corfield, Southern California Gas Co., Los Angeles, presented a paper which described the equipment and operation of the butadiene plant of his company. This plant and its operation was described in an article appearing in the November, 1943, issue of the JOURNAL.

The "Utilization of Gas Detectors" was the subject of a paper by W. R. Fraser, Michigan Consolidated Gas Co., Detroit, Mich. Types of apparatus were shown on slides. Data was presented covering the more common kinds of apparatus used for detecting the presence of hazardous gaseous contaminants in atmospheres which concern utility operations. Use of combustible gas detectors in a specific manner is discussed and the utilization of detector units for analyzing gas-air mixtures was outlined.

"Gas Enriching Oil from the Viewpoint of the Gas Industry," by P. T. Dashiell, vice-president, Philadelphia Gas Works Co., will be found in full in this issue of the JOURNAL.

C. Elton White, San Diego Gas & Electric Co., San Diego, Calif., presented a paper on "Corrections Applicable to the Approximate Determination of Paraffins in Natural Gas by Slow Combustion." A number of corrections applicable to the approximate determination of paraffins by slow combustion are mentioned and exemplified. The corrections and methods of computation result in better agreement among the values observed and calculated for heating value and specific gravity of the gas than does the use of uncorrected data in the usual way. Application of the corrections gives more precise analyses of natural gas by slow combustion, which when uncorrected are often not as precise as is desired.

The report of subcommittee on "Wrinkles" was presented by W. R. Fraser, Chairman, Michigan Consolidated Gas Co., Detroit, Mich., and represented the replies from eighteen gas companies. The replies selected for the report cut across practically all equipment of the plant, the distribution system, in the laboratory, and including instruments. They are suggested procedures, well illustrated and adequately described.

The meeting ended with four round table luncheon conferences.

Luncheon No. 1—Carbonization and Coke, Dr. W. C. Rueckel, Chairman, Koppers Co., Pittsburgh, Pa.

Luncheon No. 2—Chemistry in the Gas Industry, Louis Shnidman, Chairman, Rochester Gas & Electric Corp., Rochester, N. Y.

Luncheon No. 3—High B.t.u. Gas, L. G. Kreuz, Chairman, Michigan Consolidated Gas Co., Detroit, Mich.

Luncheon No. 4—Water Gas Operation, H. B. Young, Chairman, Connecticut Coke Co., New Haven, Conn.

Manufacturers and Utility Men Discuss Problems

The Hotel, Restaurant and Commercial Gas Equipment Section of the A.G.A.E.M. and a group of utility men interested in the sale of commercial cooking equipment, held an important meeting in New York, June 19th.

A group of manufacturers of hotel and restaurant cooking equipment met with a group of gas utility men for a frank and open discussion of matters of great importance to both groups.

The meeting was in charge of W. Frank Roberts, Chairman, Hotel Restaurant and Commercial Gas Equipment Division, and before the open discussions presentations were made by the following:

Present Activities and Objectives of AGA in the Food Service Equipment Field, Charles G. Young, Chairman, AGA Industrial and Commercial Gas Section.

How Can the Hotel, Restaurant and Commercial Gas Equipment Division Best Meet Present Competitive Conditions, Both New and Replacement Sales? Stanley E. Little, Chairman-Elect, Hotel, Restaurant and Commercial Gas Equipment Division.

Report on New Food Service Equipment Manual, Roy E. Wright, Chairman, AGA Food Service Equipment Committee.

What Do Surveys Reveal in the Food Service Equipment Field? John A. Fry, President, Detroit-Michigan Stove Company.

The discussion was frank and to the point by both groups, but it enabled each to better understand the problems of the other. This made it much easier for the manufacturers and gas men to work out plans for their mutual benefit.

Both groups expressed satisfaction with the conference and favored holding such conferences at frequent intervals.

Gas company representatives taking part in the discussions were:

Discussion Leader, Charles G. Young.

Frank H. Trembly, Assistant Sales Manager, The Philadelphia Gas Works Co.

Robert F. Patrick, Manager Oven Division, The G. S. Blodgett Company.

Harry A. Sutton, Assistant General Industrial Fuel Representative, Public Service Electric & Gas Company.

W. H. Frick, Manager Heavy Duty Division, American Stove Company.

W. H. Rudolph, Savory Equipment Division, Talon, Inc.

J. E. Russell, President, Majestic Manufacturing Company.

Leon Ourusoff, Manager Utilization Department, Washington Gas Light Co.

Herbert C. Erhard, Sales Manager, Standard Gas Equipment Corporation.

Harry Wilson, Acting Manager Commercial Gas Sales, The Brooklyn Union Gas Company.

F. B. Jones, General Sales Manager, Equitable Gas Company, Pittsburgh, Pa.

Incidentally, the officers and division chairmen of A.G.A.E.M. elected at the meeting in Chicago, May 8th and 9th do not take office until October 1st.

CAPACITY

a word with many meanings

In GAS PURIFICATION, according to an outstanding authority:

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Means of Increasing Carburetted Water Gas Set Capacity

By

George R. Steere
Swampscott, Mass.

THIS IS PRIMARILY a report on what has been accomplished by various plants to increase their water gas capacity. As every one knows there has been a real incentive for this during the past three winter seasons due to the war load and the difficulty in securing added equipment. In addition to the more commonly practiced methods of stepping up production some of the companies reporting have also tried out combinations of processes that should be of interest. It is planned that this paper will serve as an introduction and outline for further reports and study of this subject.

It was also thought advisable, by your committee, to review the various improvements in design and operation since the development of the process so the secretary has gone through the Association records and furnished a history of the various changes in design and additions to the equipment that have occurred to date, which is included as an appendix.

It will be noted from a study of Mr. King's list of developments in the art, that nearly all the important changes have made it possible to produce more gas per unit per day. Probably the most important single step, was the one from base (up-run) steam only, to up and down run operation, thus making it possible to keep the entire fuel bed in gas making condition.

The commonly known factors that tend to produce maximum capacity can be divided into four groups, although there is some over lapping of the items in each. A fifth group is included covering special processes and combinations with other gases.

I. The design of machine, auxiliary equipment, mains, connections, and gas conditioning apparatus with reference to their capacity.
II. Equipment and methods for increasing the percentage of time that gas is actually being produced.
III. Suitable raw materials for maximum capacity.
IV. Operating methods that make for increased production.
V. Special processes or materials not commonly used.

In listing the various items under each of these headings no attempt has been made to do so in the order of their importance. Undoubtedly, a great many things have been overlooked that should have been included.

Plant equipment for conducting, storing, pumping, cleaning and purifying the gas must be of sufficient capacity to properly handle any added amount that is to be made.

It will be noted that in the margin opposite each of the following items, under the five headings, are the key letters referring to the comments, data on operation or tests of the plants so far contributing. This information is included in a table immediately following the listing of the items and in the various contributions alphabetically arranged by plant designations. To assist in finding the reference in these contributions the section and item number is placed in the margin opposite where the subject is discussed.

Design of Equipment

Plant References

Although it is difficult and expensive to make radical changes in design or sizes of equipment an examination of the following items may call attention to some things that can be improved to advantage.

1. Hydraulic system of ample capacity and pressure to permit fast valve action.

2. Steam system of ample capacity and pressure to permit high rates.

N 3. Oil system of ample capacity and pressure to permit high rates.

A-B-O-N 4. Air system of ample capacity and pressure to permit high rates and deep fuel beds and smaller size fuel.

Photo Grady
George R. Steere

B 5. Ample sized connections between shells to reduce back pressure.

6. When automatic control is used it should be capable of wide variation in length of cycle and for operation of very short cycles. Alternate gears or higher speed motors can be used to accomplish this when necessary.

F 7. Minimum safe depth of dip pipe seal in the wash box to avoid back pressure. The amount of seal required in any case is dependent on the relative area of the wash box and the dip pipe and the maximum pressure that will be on the foul main at the outlet of the wash box when the machine is on the blast. With modern machines 1½" to 2½" of dip pipe seal when pressure is equalized is ordinarily enough.

8. Eliminate excessive baffling in the wash box to avoid high back pressure. Some wash boxes have in addition to the usual skirt baffle added projections to cause turbulence for the removal of tar. These projections cause considerable back pressure at high rates of make which often limits the amount of gas pressure that the machine can hold.

9. High generator desirable to permit deep fuel bed and in some processes the space for handling oil on the fire.

Presented at American Gas Association, Technical Section, Joint Production & Chemical Committee Conference, New York, N. Y., June 6-7, 1944.

10. Ample carburetting capacity, to take care of added make and blow run.

H 11. Thin wall linings to increase grate area, or volume of fuel bed.

H 12. Generator linings that prevent adherence of side wall clinker to reduce clinkering time and increase life of lining.

13. Charging door should be so designed that it seats in same relation to nozzle without foot or hand adjustment to save charging time.

14. Provision for increasing or maintaining rate of generator air as more carburettor air is used during the blasting period to rapidly heat fuel and checkers.

15. Arrangements for back blowing sets with base (up-run) steam only, to reheat dead fuel. Where time or material does not permit of installation of backrun process, this has been done by installing connection and valve at base of generator with vent out of the building. Stack is then closed and carburettor air used to blast down through the fire.

B 16. Eliminate bottlenecks causing excessive back pressure.

17. Large charging doors to speed charging and assist spreading of fuel.

Time Saving

It is of course obvious that a very large proportion of set time is expended in blasting, valve changes, charging, clinkering and interruptions such as seals blowing, explosion heads breaking, etc. Therefore, anything that can be done to reduce this proportion of time will increase actual gas making time. The following list is made up of things that tend to accomplish this.

1. Maintenance of all machinery and equipment in perfect condition at all times. The importance of avoiding repairs during heavy load periods need not be stressed.

2. Immediate repair of any damaged equipment and frequent scheduled testing of all spare auxiliaries for same reason as item one.

3. Fastest possible speed of operation of all valves without damage to them. This is to permit short cycles and save time.

4. Fastest possible sequence of valve movements that will permit safe operation.

5. Automatic controls for operation of valves or in the case of hand operation a grouping and arrangement of valve levers to cut effort and time required for operation to a minimum.

6. On hand operated sets the use of a cycle timing device that indicates the exact time for valve changes without computation, gives more accurate timing.

7. Automatic charging or arrangement for high speed hand charging with minimum effort. Motor operated charging larries or buckets in which the spreading of fuel is automatically taken care of is recommended.

F 8. Use of charging device of sufficient capacity so that only one is required per charge and so that charging periods can be spaced to best advantage.

I 9. Automatic clinkering, or where this cannot be justified the provision of an ample supply of hand tools kept in good condition and racked up within easy reach of where they will be needed.

10. Spare expendable supplies such as explosion heads, thermocouples, shields, etc., along with necessary tools for quick adjustments and repairs kept near where they will be needed at all times.

11. Signal or telephone system for operator to summon assistance when needed for adjustment or repair.

12. Use of wheel on charging door lid in place of tee bar for speed in opening and closing.

13. Spare set of brick in good condition, for clinker doorways, placed within easy reach of each door to be cleaned, before shut down for cleaning. Every minute that can be saved from the time the clinker doors are open not only saves fuel but prevents unnecessary unbalancing of heat in the machine with consequent loss of time to get back into balance.

14. Proper tools, receptacles, extension lights, etc., on hand and ready before needed for valve cleaning.

15. Breeze coke or sand on bottom of carburettors from which carbon must be removed to speed up removal of such carbon by keeping it from adhering to bottom brick.

Raw Materials

Ideal fuels and oil for maximum capacity are not often available or justified economically for the added capacity that is required. The nearer it is possible to approach the specifications listed the better the results should be.

F-P 1. High grade coke on account of the porosity allowing air and steam reaction throughout each lump. While the amount of voids in a coke as compared to a solid fuel (where the surface only is available for gas making) is desirable it does not follow that the most porosity possible is desirable. A relatively dense coke permits much more weight of carbon per cubic foot in the fuel bed and produces more gas per unit of time than a light coke or a solid non-porous fuel.

B 2. Low ash to increase percentage of run time to clinkering time.

B 3. High fusion temperature of ash to prevent troublesome clinker formation. Fuels with exceptionally low ash fusion tend to slag over the grates and freeze, shutting off air and steam flow. On the other hand exceptionally high ash fusion temperatures often permits fly-ash to carry through and coat the checkers, interfering with oil cracking capacity. A happy medium suitable to operating conditions can be selected from available fuels during normal market conditions.

D-B-N 4. Uniform and proper size fuel to maintain equal air and steam distribution. Breeze and fines tend to segregate and form an inactive zone even with the best spreading devices. Even though they should be evenly distributed they tend to blow over at high rates of blast, thus limiting what can be accomplished. The proper sized fuel for a large machine will not be the right size for a small one as it would leave an excessive amount of voids around the wall of the generator. The large diameter generators require larger size fuel to maintain equal distribution of air at high rates of blast.

5. Low moisture in fuel as charged. Any moisture in the fuel must be turned to steam and it in turn to the temperature of the blast gases at the expense of fuel and extra blasting time.

N 6. High enrichment value oil to provide ample carburetting capacity at high rates of production.

N 7. Oil low in carbon and solids to avoid fouling of checkers and necessity for removal of carbon.

8. Oil low in sulphur to prevent overloading of purification system.

9. Steam should be as dry as possible to prevent unnecessary chilling of fuel bed.

10. Air should be free of excess moisture to be able to control production of C.O.

P-F 11. Small sized fuel when sufficient blast pressure is available permits more tonnage in fire and surface to air and steam contact. Rate of blast is limited, however, to prevent blowing it out of the generator.

Operating Methods

A great many ideas have been presented which would come under the heading of operating methods. Each plant is an individual problem and there are many items included that

BASIC DATA, OPERATING RESULTS AND CAPACITIES
FROM PLANTS REPORTING TO DATE.

Note:- See Detailed reports for more information.

Plant designation	A	C	D	E-1	E-2	M
Size of Unit (O.D. Gen.)	12'0"	8'0"	9'-0"	10'-6"	9'-0"	10'0"
Special Process	2-shell machines	Low Gravity	Low Gravity	Reversed Flow	Marginal Blast	Reversed Flow
Automatic Clinkering	Yes	No	No	No	No	No
Automatic Controls	Yes	No	Yes	Yes	Yes	Yes
Blower Pressure	81"			42"	42"	42"
Max. Pres. outlet Wash box in inches W. C.	15"to 16"			22"	22"	
Max. Pres. under grates	70"	38.5	28"	27"	29"	40
Time Covered, in days	13 odd days	2	31	790	880	30
Cycle in Minutes	4	4-1/2 to 5	3	4	4	3
Kind of Fuel	coke	50% coal 50% coke	100% coal	coke	coke	coke
Per cent of Ash	7 to 7.4			11	11	7.4
Fuel / M in lbs.	27.1	25.79	20.3	25.11	24.24	14
Beaumé of Oil	31.5		gasoline	17	17	14 to 17
Oil / M in gals.	2.91	3.26	3.35	3.54	3.57	4.79
B.T.U. of Gas	479.1	528	538	550	555	530
Sp. gr. of Gas	.66	.7	.66	.65	.65	.635
Make/day in M cu.ft.	7558.7	1012				
Make/hr. in M cu.ft.	314.9	46	148.3	160	117	199.5
Make/sq.ft./hr. in M cu.ft.	4.010	3.650	3.900	3.200	3.010	4.147

will not apply in all cases for economic reasons or because of the quality of the gas required except in handling extreme peak loads. However, the list should be a worthwhile review and serve to stir up some heated discussion and disagreement leading to a better understanding by all concerned.

B 1. Carry as deep a fuel bed as possible. There are many limitations on the depth of fuel bed that should be used such as: available blast pressure, height of generator, or the necessity for space to use oil on the fire. In general, the more weight of carbon that can be properly heated the more blue gas can be produced and the more producer gas is available for rapid heating of the checkers.

B-F G 2. Maintain a high temperature throughout the entire depth of the fuel bed by proper proportion of up-run steam to back-run or down-run steam. Use maximum amount of back-run steam without damaging grates. This is mainly to call attention to the fact that for high rates of make maximum blue gas production can be obtained only if the maximum amount of carbon is in condition to re-act with steam. Many generators are kept so cool at the lower end to protect the grates that there is little or no blue gas produced in the lower section. A high side wall clinker is an indication of this condition if the machine has been clinkered often enough to have active fuel near the bottom.

B G 3. Correct quantity of steam per cycle should be maintained to get maximum blue gas reaction. Correct air steam ratio varies with quality of fuel.

F G 4. Maximum rate of blast possible without blowing fuel out of the generator.

5. Close adjustment of amount of secondary air to maintain heat required in checkers without over-blasting. For machines without a waste heat boiler this can be checked by use of a pilot light at the stack and adjusting carburettor air to maintain a flicker of blue gas burning at the stack.

D N 6. Maximum blow run possible to produce an acceptable gravity gas and to be able to maintain required B.T.U.

P-F-B-D 7. Shortest cycle possible with method of control used and the speed the valve movements will permit, for safe and efficient operation (See I. (6)). The shorter a cycle the more even the temperature in both the fuel bed and checkers at the high heat level and therefore the more efficient temperature range.

B 8. Frequent enough clinkering to prevent the formation of high side wall clinker and a too shallow fire due to the depth of clinker and ash.

9. For hand clinkering, men used, should be carefully trained and organized so that every move counts and a thorough job can be done in the shortest possible time. This not only saves time and fuel but prevents the heat balance in the machine from becoming unduly upset. A bonus in the form of a paid rest period or overtime pay in proportion to time saved often helps to accomplish this end. Anything that can be done to give better working conditions such as good ventilation, easy and rapid quenching of hot clinkers, etc., tends to speed up clinkering and keep good men on the job.

F-P 10. Use of steam through the fire during the blast, when the temperature of fire permits, will heat the checkers more rapidly.

The use of steam during a blast is generally justified except in reheating the machine after a long shut-out. At such times a fire often becomes overheated while bringing up the temperature of the checkerbrick and the

addition of steam serves the double purpose of protecting the grates and lining as well as supplying more CO and hydrogen to burn in the carburettor and superheater.

C 11. Use of steam during the blow-run, if fuel bed temperatures can be maintained without extra blasting time.

Steam used during a blow-run will of course increase the B.t.u. and volume of the blow-run gas. The amount used should never be such as to require extra blasting time to maintain generator heats when maximum capacity of a set is the principal aim.

12. Use of blow-run rather than blow-purge so that the higher quality gas produced will permit the use of a greater quantity.

13. Use shortest possible final up-run that valve speed will permit and still give the necessary purge for safety.

14. Have checkers in good condition previous to heavy load periods so that the extra oil needed for the enrichment of the increased capacity can be properly carburetted.

G C 15. Increasing steam rates to save time.

G B 16. Carry high temperature in checkers for maximum oil gas production.

B 17. Proper distribution of the fuel when charged, to avoid preferred air and steam passage.

Special Combinations

Note:—Where patented processes are to be used suitable arrangements may have to be made for their use.

C-D 1. In addition to the foregoing items, reports have been received on the use of the Willien-Stein low gravity process in connection with peak load water gas production at two plants. By the introduction of oil in the top of the superheater during the back-run it has been possible to use far more blow-run and still hold the gravity of the gas within the desired limits, thus materially increasing the capacity of the sets.

These reports show that an average rate of 3900 cu. ft. per. sq. ft. of grate area per hour has been maintained, when using 100% bituminous coal and when producing a gas with .66 sp. gr. and 536 B.T.U.

K 2. In another case, plant capacity was limited by carburetting-capacity and the difficulty was overcome by converting one of six machines to the production of 800 B.t.u. gas thus making it possible to put maximum blow-run on the other five machines for added capacity.

K 3. Reforming Natural Gas.

K 4. Reforming Refinery Gas.

K 5. Reforming Butane.

The balance of this paper consists of report data, tables, charts, etc. This material is available through American Gas Association.

J. T. Kimball Elected Vice President

John T. Kimball has been elected a vice president and director of New York Power and Light Corporation, it was announced June 21 by Otto Snyder, president.

Mr. Kimball was also recently elected a vice president of the Central New York Power Corporation, whose headquarters are at Syracuse, N. Y.

Since 1932 Mr. Kimball has been rate and valuation engineer for the companies in the Niagara Hudson System and has maintained his office at Buffalo. He will continue to act as a consultant for the companies in the western division of the Niagara Hudson System but will move from Buffalo to Syracuse, at the time he assumes his new and additional responsibilities with the New York Power and Light Corporation and the Central New York Power Corporation.

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PLAINFIELD, NEW JERSEY

Gas Company Conserves Motorized Equipment for the Duration

By
Fred A. Herr

AS A RESULT of manpower and motor vehicle shortages, gas utility firms in virtually every section of the country have found it expedient to curtail their transportation setups in order to make equipment and personnel available under war conditions cover the most vital needs.

Reducing the mileage of trucks and passenger cars used in company business to an absolute minimum without jeopardizing essential utility services, therefore, has become one of the major concerns of gas companies.

Notable in respect to mileage reduction and motor vehicle conservation is the record of the Southern California Gas Co. of Los Angeles. Operating only 17.1% less cars and trucks in 1943 than in pre-war 1941, this company, as a war conservation measure, has succeeded in reducing the mileage traveled by company-owned vehicles from 11,381,845 miles in 1941 to 6,132,718 miles in 1943, a decrease of 46%.

While fewer passenger cars and trucks were made available to company personnel in 1943 than in the two preceding years, the substantial reduction in mileage was accomplished largely through a series of effective operational revisions which were initiated in order to streamline the transportation activities and enable the firm to make existing motor vehicles last out the war by conserving motorized equipment and parts, as well as fuel.

Because of the manpower shortage, which in 1943 began to be felt with increasing acuteness in the public utility field in Southern California, and through the consolidation of operations and curtailments in some services, the company was able to remove a considerable number of motor vehicles from the active list.

In removing vehicles from the active list, the company is following the policy of laying off newer trucks and cars. These are placed in "dead" storage, to be drawn upon for replacements as needed. Up to May 1, 1944, it had not become necessary to withdraw any trucks or passenger cars from the stockpile, according to W. K. Stevenson of the Southern California Gas Co.'s automotive department.

Create Post-War Car Reserve

In storing cars and trucks not immediately required under wartime restricted operations, and drawing upon them as little as possible for replacement purposes, the Company is wisely keeping an eye on the future—the post-war future. The Company is proceeding on the theory that few, if any, new cars and commercial vehicles will appear on the market in the early part of the readjustment period which must inevitably follow the close of the war. Consequently, the motor units it now has in storage as a reserve, the value of which will increase as the continuance of the war makes the shortage more severe, and from which the greatest benefit will be derived when vehicles now wearing out in active service are due for replacement.

The number and type of vehicles removed from the active list as the war proceeded was dictated solely by conditions prevailing at the time. Since 1941 only 32 passenger cars have been retired to storage, whereas a total of 292 fewer trucks were in operation early this year (1944) than in 1941. The withdrawal of units from service has been gradual, as shown by the accompanying table which indicates the number of motor vehicles in service during each of the four full or partial war years:

Units in Service

Year	Trucks	Pas. Cars	Total Vehicles
1941	943	398	1341
1942	752	398	1150
1943	734	368	1102
1944 (to May 1)	651	366	1017

Vehicles removed from active service are stored in various locations in the company's divisions. In order to reduce the hazard of damage from fire and, earlier in the war, from bombing attack, a scattered pattern of parking is resorted to, under which cars and trucks are stored a minimum of ten feet apart and 30 feet from the nearest fence.

Pre-Routing Reduces Mileage

Conservation programs and revisions of service in different departments have contributed to the overall reduction in mileage. Mr. Stevenson disclosed that the Customer Service Department had performed an outstanding job in streamlining its operations and keying activities to wartime exigencies.

A plan of pre-routing orders to field men, for instance, has made it possible for the Customer Service Department to use fewer trucks and eliminate considerable mileage. In the pre-routing plan now used with

MILES TRAVELED BY COMPANY PASSENGER CARS AND TRUCKS

	1941	1942	1943
January	984,325	941,263	488,718
February	880,653	752,001	452,750
March	962,959	692,299	521,665
April	958,436	639,140	502,086
May	945,144	589,681	491,960
June	910,079	555,578	515,540
July	935,263	544,634	513,083
August	914,570	496,838	515,249
September	939,164	508,952	535,162
October	1,060,550	531,326	567,489
November	899,624	484,190	513,061
December	991,078	501,923	515,735
Total	11,381,845	7,237,825	6,132,718
Average Mileage Per Month	948,487	603,152	511,059

success by this department, the dispatcher sets up the orders for the field men the day before they are to execute them. The dispatcher works with a large map. He inserts a pin in the map at the address of each order to be handled the following day. When all orders have been identified with pins, the dispatcher takes a length of string and runs it from pin to pin until he has arrived at the most direct and mileage-saving route by which the field man can travel from one address to the other in covering his assignments.

The field men are instructed to follow the routes mapped out for them without major deviation. They are cautioned not to attempt to improve on them unless confronted by a circumstance of which the dispatcher had no knowledge at the time the route was mapped; such as, for instance, the closing to traffic during the night of a street. In such cases the field men are permitted to use their judgment in changing the pre-mapped route to the most direct alternate one.

Pre-Routing Cuts Mileage 38.4%

That pre-routing has resulted in reducing mileage by a considerable amount is shown by company records. Between January 1, 1941, and March 31, 1942, fieldmen of the Customer Service Department required an average of 1.75 miles of travel per order. The mileage conservation program began functioning in March, 1942. Between April 1, 1942, and December 31, 1943, the department reduced the average-miles-per-order from 1.75 to 1.081 miles per order. This represents an overall reduction of 38.4% miles per order.

This reduction was accomplished, Mr. Stevenson pointed out, despite the fact that the volume of orders had decreased by some 50% due to the war situation. In considering this factor, he emphasized, it must be borne in mind that a decreased volume naturally results in a more scattered pattern of orders, which requires more traveling by servicemen. Due to skillful pre-routing by the dispatchers, the record of the Customer Service Department in respect to mileage reduction, is regarded as highly commendable by the company.

Matching Up Orders

Matching up of orders is another method by which the company has taken up slack and cut mileage by eliminating duplicating trips by service men to the same address. This situation was created to a large extent by the acute housing shortage which prevailed in Los Angeles and adjacent areas during the latter part of 1943 and which continued without noticeable abatement as the spring of 1944 moved toward summer. Apartments, flats and houses were in such demand due to an inordinate influx of war-plant workers and service men and women, that out-going and in-coming tenants, in some instances, literally passed each other on the sidewalk.

This situation not infrequently resulted in the Customer Service Department receiving an order to "Turn Off Gas" from a vacating party in the morning, and an order to "Turn On Gas" from the new tenant at the same address in the afternoon, or early the next day. By having the central office "match up" such orders, they are now being assigned to one field man to handle on a single trip. A certain volume of orders thus is killed off in the office before the orders ever reach the field men.

Giving due consideration to the volume of orders eliminated by the matching up system, the reduction in mileage is shown to be larger, the percentage having been brought down to .997 miles per order, for an overall reduction from 1.75 miles per order in the spring of 1942 to .997 miles per order in the spring of 1944, an overall cut of 43.2%.

Reorganization of meter reading practice has also contributed materially to mileage reduction, the company reported. In gearing the work of meter reading to wartime needs, some 50 odd meter books which formerly had been read by men driving company cars, have been rearranged so that they are now covered by meter readers on foot. The change-over to bi-monthly meter reading in some districts has also been reflected in a downward curve on the mileage chart.

Company Car Pools

Reduction of mileage of cars operated in company business has also been accomplished through a car pool system. One pool is based at the headquarters building, and the other at 1700 Santa Fe Avenue. Employees who use cars from the pools are those who have need for automobile transportation at infrequent intervals. Of the 1500 employees in the central division, only about 100 travel by personally assigned cars.

As a war measure and in the interest of conservation, the Company requires employees to use public transportation mediums within certain limits measured in time. Every point of destination that lies within 30 minutes by bus or streetcar of either car-pool base, must be traveled by public transportation. Points lying more than 30 minutes travel time from the bases may be negotiated in a company car from one of the pools, upon authorization by the employee's foreman or supervisor.

Cars drawn from the pools formerly were used chiefly for short trips. The requirement that public transportation be used for short hauls has effected a reduction of 60% in mileage in this class of motor travel.

Vehicle Clearing House

The Company also operates a "Car Clearing House" for use by personnel traveling by company car between divisions. The establishment of the inter-divisional car-pool represents a relaxation from a more stringent policy in effect from the middle of 1942 until July, 1943, when all travel by car between the metropolitan division and outlying divisions was prohibited. This rule was modified when public transportation facilities became overcrowded due to the influx of men of the armed services into Southern California.

The inter-division car clearing house has been in operation since December, 1943, for use by company personnel engaged upon necessary travel from the metropolitan division (Los Angeles) to outlying divisions. Employees who find it necessary to travel to a location outside the Los Angeles area are required to notify the chairman of the transport committee. This official matches up trips, much in the manner of the dispatcher in the Customer Service Department matching up service orders. If a man in the Central Division in Los Angeles, for instance, expects to go up-state to the Visalia or Taft division within a few days, he is required to give advance notice to the transport committee chairman. If the man can postpone his trip for a day or two in order to permit some one else from the same division to accompany him, he is asked to do so.

The purpose of the transport committee is to provide full loads in company vehicles whenever possible without handicapping employees in the performance of necessary duties. This program of ride pooling, the company reported, has been successful in reducing long-trip mileage to an appreciable degree.

Miles Per Gallon

The conservation-minded spirit of the personnel of the Southern California Gas Co., which has been developed to a high degree through various programs designed to stimulate and encourage savings in time, manpower and materials wherever possible, in the interest of the war, is further reflected in the record of miles-per-gallon of gasoline obtained from company vehicles. In respect to passenger cars, the company points with a measure of pardonable pride to its record of an average of 15 miles per gallon. This average is attained from a fleet of some 350 to 360 passenger cars of miscellaneous types and sizes, which are operated in congested metropolitan areas, on long and short trips, and over every conceivable type of paving.

The company obtains the average mileage per gallon from various types of vehicles as shown in this table:

Passenger cars — Miscellaneous types ..... 15 m.p.g.
Commercial cars—Ranging from small 1½ ton pickups to 10-ton trucks .....10.6 m.p.g.
Combined fleet—Passenger cars and trucks .....12.2 m.p.g.

In respect to fuel consumption, Mr. Stevenson pointed out that the company has observed that since October, 1943, there has been a decline in the average mileage per gallon on all classes of motor vehicle. The only thing to which this can be attributed, Mr. Stevenson declared, is the lowered quality of gasoline now being supplied due to war requirements, and, to some extent, to the lowered efficiency of the vehicles after being in service much longer than they would be in normal times.

Over-All Mileage Cut of 46%

The over-all effect of the various conservation and restrictive moves of the Company is reflected in the reduction brought about in the mileage of company cars, which has been lowered from an average of 948,487 miles per month in 1941, to an average of 511,059 miles per month in 1943.

How the mileage of company vehicles has dropped under the impetus of the conservation programs instituted since the war began is shown in the table, page 21, which presents the average mileage of cars and trucks in month-by-month averages for 1941, 1942 and 1943.

A comparison of the figures in this table with those in the cars-in-use table presented in the forepart of this article discloses that in 1943 the company had in operation 1102 vehicles, or only 17% less than the 1341 operative in 1941, but the 1943 average mileage per month was 511,059 as compared with a monthly average of 948,487 in 1941. This represents a decreased monthly mileage for 1943 of 46% under 1941.

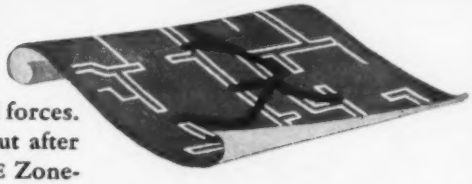
Servel Erects Billboards Along Company Tract

As a further step in their wartime service program, Servel, Inc. had erected recently five 24-sheet billboards at their plant. Four of these boards are along the right of way of the C. & E. I. railroad, and the fifth was erected on highway 41.

For the duration material for the boards will be on government promotions such as War Bonds, nutrition, conservation, and recruiting for the armed services.

The advertising billboards along the railroad track will give visitors to Evansville an idea of the size of Servel as the boards are located at the north and south limits of the 66 acre tract used by the company.

TODAY
WAR WEAPONS
TOMORROW
Payne
ZONE-CONDITIONING



There's only one important job now . . . backing up the armed forces. We've been concentrating on it for more than two years. But after victory, our dealers will have a new "sales weapon": PAYNE Zone-Conditioning, post-war successor to old-fashioned central heating. ★ Meanwhile, let's all buy more, and more, War Bonds.

PAYNEHEAT
30 YEARS OF LEADERSHIP
Payne FURNACE & SUPPLY CO., INC., BEVERLY HILLS, CALIF.

GAS FUEL (HAS) EVERYTHING

REQUEST NEW ZONE-CONDITIONING FOLDER
. . . just published for the information of families who plan to build or remodel. Write for sample copy.

© 1944 PAYNE FURNACE & SUPPLY CO., INC.

What will the gas range of

DISCUSSION NO. 5

Filters Will Eliminate Pilot Failure

Pilot failure is just as exasperating to the housewife as running out of gas is to the motorist. Clogging of the pilot due to vapor phase gum has long been a problem. Pilot outages are expensive to service. Customer dissatisfaction may result in the user dispensing with gas for cooking.

The filter used must do as good a job as the Wyman U.G.I. Gas Filter shown here. It must prevent gum and other foreign substances in gas from snuffing out the pilot. It should be made to last the life of the range and should have the pilot adjustment as an integral part of the filter. Each filter should be individually flow-tested to insure that it has the proper capacity, and pressure-tested to detect leaks or improper assembly. It should be so efficient that when cigarette smoke is blown through it, the emerging stream is practically invisible.

Efficient filters such as this on tomorrow's range will add still more to the prestige of gas as the ideal fuel for cooking.

HARPER · BURNER SYSTEM ·

2-burners-in-1

HARPER-WYMAN COMPANY

8562 VINCENNES AVENUE
CHICAGO 20,
ILLINOIS

Please send me a Wyman U.G.I. Filter so that I can observe its efficient filtering properties through the cigarette smoke test.

Name_____ Title_____

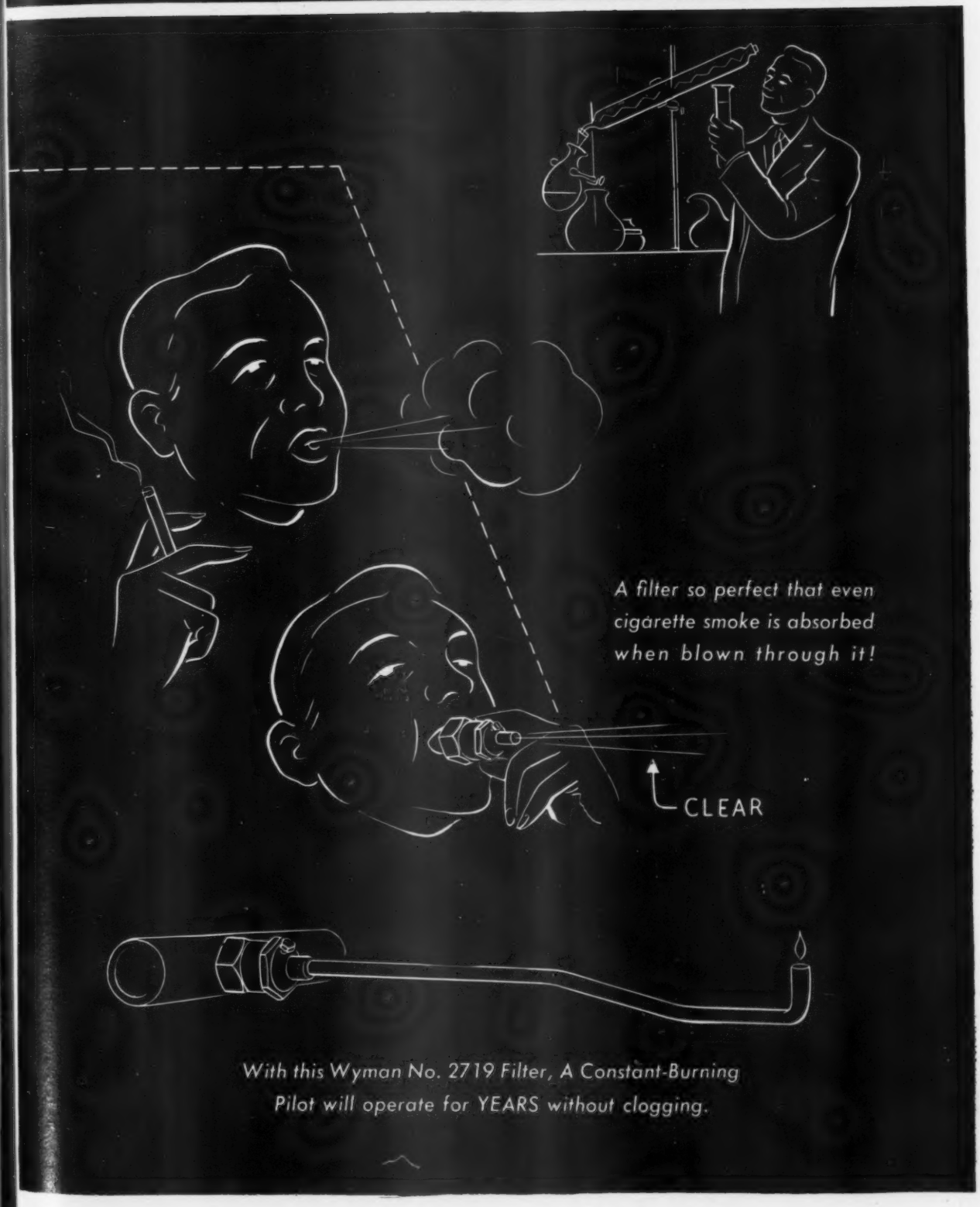
Company_____

Address_____

City_____ Zone_____ State_____

the future be like...and WHY?

"In research nestles
the seed of perfection"



With this Wyman No. 2719 Filter, A Constant-Burning Pilot will operate for YEARS without clogging.

Appliance Financing Trends

By
L. M. Lilly
President First Bancredit Corporation
St. Paul, Minnesota

THE SUBJECT chosen for me to discuss is one which we are very close to, as we have spent a great many years in developing it and watching it grow. We are now satisfied that the pioneering is over, and that the utility and the dealers in the future can work closely together and maintain harmonious relations.

The business conditions during the war period, of course, are abnormal, and I am not attempting to make any suggestions as to business during that period, my remarks being entirely predicated on a normal business condition existing, as and when it returns, and as it was in the past before the war started.

The plan, or plans, which I will outline today are not new, as they have been tried and found to be successful, and while the gas industry as a whole has not as yet seen fit to adopt any dealer cooperative plan, competitive industry has found it most practical and desirable, and have utilized it to a very large extent not only with us but with the Electric Home and Farm Authority, and with other sources of money. Before discussing the plan which we wish to bring to your attention, I would like first to have you all go with me to an average metropolitan city in the United States and find out how gas appliances are sold—it might be interesting.

Looking At An Average City

We find in the average city gas appliances sold principally by the gas company itself, and as a rule we find very few, if any, strictly retail gas appliance specialty dealers. Let's analyze the sale of gas appliances which are sold by dealers other than the gas company itself. We find that the plumber probably sells the bulk of the water heaters. He is more interested in his labor profit than he is in the profit on the equipment, and he usually merchandises from his home, or from a shop. The terms a plumber gives vary, depending upon the ability of the plumber to either carry the paper himself or to dispose of it. He has no standard plan which he can use, and as a rule has no standard selling price for the equipment he sells. It depends entirely on his own pocketbook and on his judgment as to what kind of terms he can give to the purchaser.

Carrying on the investigation, we find, insofar as rates and terms are concerned, that there doesn't seem to be any standard rates or terms. Each store handling gas appliances quotes terms and rates according to its financial ability to carry the paper. We have found rates as high as twenty percent interest on some contracts—and we have found instances where there has been no interest charged at all. Where no separate interest charge was made, we rather assumed that the interest charge was hidden in the selling price of the equipment.

Chaotic Conditions

The conditions in the gas appliance field are, as a rule, rather chaotic, as no one seems to have taken sufficient interest to establish an organization among the Dealers handling gas appliances. All in all, I believe our survey would indicate that the field is more or less left to run itself, and without any semblance of order or supervision.

The survey further indicates the lack of intelligent selling by the dealers of gas appliances. This can be attributed primarily to the fact that gas appliances, up to this time, have been sold more or less as an adjunct to other lines being sold by the merchant, and the element of price has been, to a very large degree, the moving factor in the minds of the merchants, rather than the element of quality, efficiency and service. Many merchants feel that it would be impossible to sell a gas stove for $150.00, so they naturally take a line of least resistance and stock and merchandise the cheaper goods. I know that the Gas Association fully realizes the importance of improving the quality of the equipment using gas, and is bending every effort to see to it that the manufacturers improve this quality before the A.G.A. will give its stamp of approval. This is a long step in the right direction, and is certain to bring about a more satisfied user, and one less tempted to use competitive cooking or heating facilities.

In my opinion the gas industry, as a whole, is not yet satisfied that they can depend on dealers to sell sufficient appliances to permit them to show the growth which they must show from year to year, and as a result many of the gas companies have taken the attitude, and I will not dispute whether they are right or wrong in this attitude, of finding it necessary to sell appliances on liberal terms with very moderate or no down payments, and with usually reasonable finance charges.

Safest In The Portfolio

At this point I would like to emphasize that, in our opinion, gas appliances are probably the safest finance paper in the country. The record on gas appliance paper proves that statement—so much so that most people engaged in purchasing installment contracts on gas appliances regard it as the safest paper they have in their portfolio, so while discussing this plan which I am proposing, I would like to have you gentlemen bear this statement in mind, as it will have some bearing on the program which I will outline to you.

I am confident that there are just as good men in the gas industry as there are in any other industry, and if these men will really sit down and concentrate on problems which confront the industry with respect to dealer cooperation, this situation can be remedied, and remedied quickly. The only trouble up to this time has been that the necessity for such an appraisal of the dealer situation has not been recognized, but I firmly believe that the uncertain post-war situation facing every gas company in the country will bring about revolutionary changes which probably would not have been placed in effect for many years, had conditions continued as they were in 1941.

Trade Suicide

One must admit that conditions today in the industry as a whole are not conducive to encouraging people to establish gas appliance specialty stores, nor are they conducive to encouraging dealers to stock gas appliances, not because there isn't sufficient equipment to sell, nor because they would not be able to secure the merchandise, but primarily because of the fact that the gas company itself does not encourage competition with its own equipment sales, and

usually offers to the public terms, rates, and discounts in such a way that it discourages such competition and makes it very difficult for the dealer to complete. I question seriously if any of the gentlemen assembled here today would even consider opening a gas appliance store in competition with a local gas company, as under the present basis of merchandising, it would be trade suicide.

The gas industry, it seems to me, has an obligation—an obligation extremely vital, especially during these periods. This obligation is to see to it that the right of free enterprise is maintained, and to encourage the establishment of more small independent businesses in the communities which they serve. Possibly everyone to some extent has that thought in mind today, and when the war is over, and the boys come home, we all are going to have to fulfill our obligations. If every industry will do its part, I don't think that any of us will have to worry about the postwar period.

When The Boys Come Home

Many young men are coming back from the war with changed ideas, with entirely different perspectives, and are today looking ahead to the time when they can be custodian of their own lives and of their own little businesses. Help should be accorded these boys in every way possible to make their ventures a success.

I am not advocating that the gas company discontinue merchandising appliances, as I fully realize that the building of a dealer organization is a long difficult job, and one that will require a great deal of patience and a tremendous amount of understanding, but it is not a task that cannot be completed, as it already has been demonstrated by some gas companies that dealer organizations do develop and do produce a volume satisfactory to the gas company, but only if the gas company itself takes the initiative and assists in such development work.

The plan which I am proposing is, as I said before, not new. It simply takes the things that are here, or can easily be secured, and knits them into a well-formed, coordinated group, and this group then becomes the sales agency for the gas company.

The gas company may say, "All right. Let's admit these facts. Let's say, for the sake of argument, that the things you say are true. So what?" That's my job. I am going to try to answer the question in what I hope is an intelligent manner, and see if it isn't possible for something to come out of this meeting which will remain with us long after we are gone.

Toughest Years of Competition

To start with, I would like to put myself in the position of a gas executive having charge of sales, and I would like to visualize for a moment, some of the problems which will confront this executive when the war is over. No one can determine accurately in advance what conditions will prevail in any given territory. We are all more or less assuming that during the conversion period there will be some upsets and some unemployment, but we are hoping that these trials will not last for too long a period. Some guesses are as low as six months, and others as high as ten. Assuming that this is true, what would be our condition after that period has elapsed? I, as this executive, think I can see the toughest years of competition that I have ever experienced ahead of us. I can see where manufacturers, anxious to secure their place in the sun, are going to extreme methods in order to make the people conscious of the things they have to sell. I can visualize the homes of the future—on billboards, on the radio, in every type of advertising copy. Is this home of the future to be a gas home, or is it to be something else?

Still thinking as an executive of a gas company, I am wondering about this new heater which I have heard so much about, where a unit is placed in each room, which burns gasoline and operates with a spark plug, all connected to a central control switch, so that any room in the house can be warmed in a few minutes. I am told by reliable authority that this new heater will heat an eight-room house in the northern part of the country at a cost of 22 cents per day. This is going to be competition for me. I have got to do something about it. What is the best approach to overcome not only this one type of competition, but all the other types of competition with which I will be faced? I then ask myself, "Can I do it alone? Am I big enough in my community to carry the load with which I will be burdened, or would it be easier for me to forego some of the profits I have been making on appliances, and encourage dealers to take on gas appliances, with the assurance from me that if they desire, I will feature the fact in the newspapers, on the billboards, and on the radio, that they are handling approved A.G.A. gas appliances—that they are in your neighborhood and are your neighbors, and that they will be pleased to serve you—that they can offer you everything I can offer you at a cost approximately the same, and that the terms and rates are the same as we can offer you, and in addition, our company will be most happy to permit you to pay for your appliance with your gas bill."

Above All . . . Hard Work

I wonder, as I sit thinking it over, whether or not I can do this. I feel confident that we alone cannot remain alone in this highly competitive field of light and heat, and that it is up to me, in fact it is my job, to see to it that we have just as many outlets as can be secured, having in mind, however, that a failure among the dealers is something we must avoid. This is not an impossible task, but it will take ingenuity, resourcefulness, and good straight thinking, and above all else, a lot of hard work. So, in presenting this plan to you today, I want you to feel that we, our company, can fit into this plan with you, and help you develop the type of dealer organization in which you can take pride.

I am not going to attempt to discuss any particular utility's operations, as many of these operations have been along slightly different lines, with slightly different objectives, but I would like to present a plan which I might say is a combination of the best features of all the plans now in the utility field, and have you give it your consideration.

This plan, fundamentally, is sponsored by the gas company, and provides that the gas company will not merchandise appliances at any price lower than the dealers, will offer exactly the same terms and rates as those offered by the dealers, and the gas company will collect with the gas bill for any appliances sold to customers of the gas company. If the city is sufficiently large, a gas appliance dealers' association should be organized, and only those dealers in the city handling A.G.A. approved appliances should be permitted to become members. All the advertising and other promotional efforts that the gas company resorts to should be coordinated wtih the dealer organization, and the gas company should have no hesitancy in promoting the dealers' welfare at all times, such as providing display facilities in the show room of the gas company for the products sold by the dealer, and such other things of this kind which would go to make more pleasant relations with the dealers handling the gas appliances.

At this point our company enters the picture. We make a contract with each one of the dealers to purchase gas appliance paper on a uniform plan and at uniform competitive rates, without recourse on the dealer except for a period of the first ninety days, the purpose of this recourse being to test the authenticity of the sales. We then establish in the city a credit, cashing and collection office, so that any dealer can call in the credit on a customer and receive a decision within the space of a few hours. If the deal is rejected on account of poor credit, the gas company is immediately advised of this rejection, and the gas company agrees that it will not sell an appliance to this rejected party, as to do so would result in breeding a lack of confidence, which must be avoided.

Assuming that the credit is approved, the dealer makes delivery, turns the paper in to us, and we immediately issue our check in payment therefore. The account is then turned over to the gas company, who adds the monthly payment on the bill and collects it from the customer, remitting to us the proceeds of such collections at stated intervals previously agreed upon. Should the account become thirty or sixty days delinquent, it is turned back to us, and we, in turn, handle it from that point on. When a repossession is made, the repossession is usually sold to the dealer who originally sold the equipment at a price sufficiently low so that the dealer can make a profit on it—that is, provided that the ninety-day guaranty period given by the dealer has expired. The question of floor plan or wholesale accommodation to the dealer is one that is handled individually with each dealer, without bringing the gas company into the picture at all.

Funds To Carry On The Work

The thought probably in your minds now is, "You have tried to point out to us the necessity, or advisability, of promoting sales through dealers, but you haven't as yet told us where we are to get the funds to carry on this work." I am going to try to tell you how these funds will come to you without withdrawing them from your own accounts. One gas company has been paid over $110,000.00 by us, and I could mention others who have received from $50,000 to $75,000. If they were consulted, I think they would say that the money they have received from us has been sufficient to pay all of the dealer promotional work, as well as to make it possible to run dealer contests and help considerably in dealer and utility joint advertising. The accumulation of this money comes about in this way; at the time we make these dealer contracts, we make an agreement with the gas company which provides that there is no recourse on the gas company of any kind in connection with the paper purchased from the dealers, or from the gas company itself, should the gas company determine to dispose of its own paper to us on the same basis as the dealers.

Let us assume, for the moment, that the finance rate used in connection with the dealer and the utility program is a 6% charge. Our contract with the gas company will provide that the gas company will receive one-half of the finance charge made by the dealer—in this instance 3% per year—which amount will be credited to the account of the gas company on our books and will be retained by us until such reserve, as we will call it, has equalled 8% of the outstandings, at which time the utility will have the privilege of withdrawing such excess. For example, we will say a refrigerator sold for $200.00 over a period of three years. The charge on this would be 6% per year, or 18%, or a total of $36.00. Eighteen dollars of this fund will be retained by us to compensate us for the interest and other overhead expenses; $18.00 would be credited to the account of the utility company and could be set up on the books of the utility company as being due them, provided that out of this reserve first shall come the loss sustained on the re-sale of any repossessed appliance, or any other loss which might occur in reference to the appliance covered by the contract. This loss does not include the repossession expense; it is simply the actual loss taken on the re-sale of the appliance after repossession has been made, or should a fire or theft occur, then that loss also would be charged against this reserve.

No Loss of Prestige

You may wonder what this amounts to in dollars and cents, but again I reiterate my former statement that one company represented here has received $110,000.00 from us, and another company now has on deposit with us better than $50,000.00, although all the accounts have been liquidated some time ago. I could mention a number of companies who have received better than $25,000.00, but I think that most of you are satisfied that there is a sizeable amount of money which can be made, and which will help materially in fostering a dealer program. I have in mind a utility company which does not merchandise appliances, which early in 1942 went to the manufacturers supplying the dealers and purchased over $100,000.00 in appliances, placed these appliances in its warehouse, and then asked us to pay the manufacturers for this equipment. We paid the manufacturers and took title to the equipment and held it in the warehouse of the utility company for the benefit of the dealers working under the cooperative plan. The result, needless to say, was extremely beneficial to the dealers, and the utility, as a consequence, certainly didn't suffer any loss of prestige by looking ahead and doing as they did.

I asked you to remember a statement which I made some time ago to the effect that gas appliances were probably the safest finance paper which it is possible to secure. The loss ratio has never exceeded, to my knowledge, more than one-half of 1%, and the experience on collections has been excellent, so judging from past experience, one can almost state that the utility company would receive a substantial profit on every appliance sold by the dealers, which profit can be and rightfully should be used in further effort for the benefit of the dealers.

Small Town Operation

I have only attempted to cover the high spots as the plan would relate to a metropolitan operation. Should the gas company be operating in a territory composed of smaller towns, then I would make this suggestion. Obviously we could not be expected to maintain credit offices in all of the towns and villages covered by the gas company; therefore we ask the gas company to approve the credit of the purchaser either on its own paper or the dealers' paper. The credit requirements are fairly simple: the length of time the man has lived in the community and the promptness with which he pays his gas bill. There is no liability on the gas company for giving this credit approval, and the same plan would be followed out in almost every respect as it applies to the larger city. We would maintain collectors to handle all delinquent accounts and to make the necessary repossessions in our name, not in the name of the dealer or the gas company, which fact in itself is quite important, as our making the repossession would remove any onus from such action by the local gas company.

(Concluded on page 50)

Research

GAS-FIRED AMERICAN HEATING EQUIPMENT

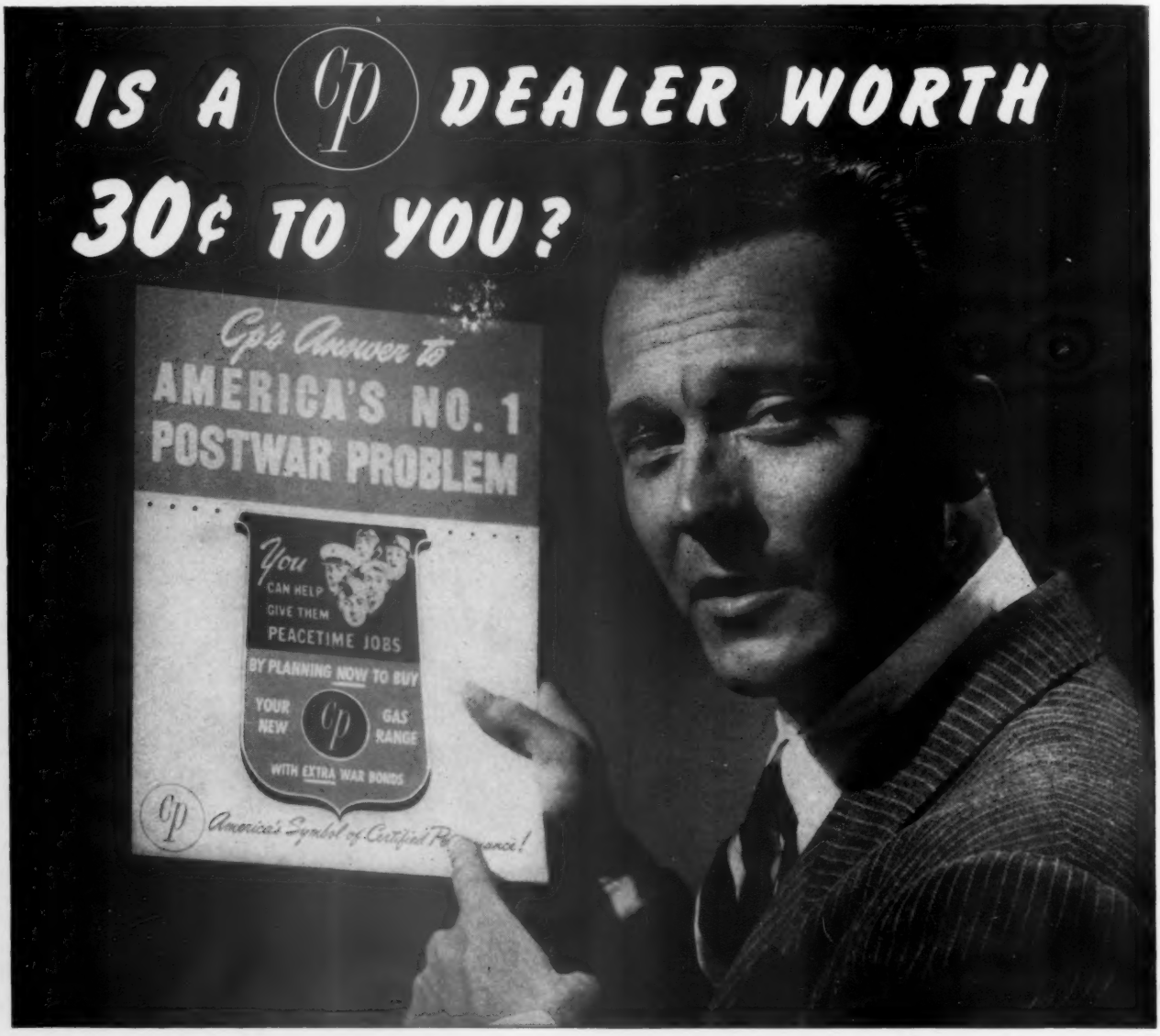
Research has been a major factor in the development and refinement of AMERICAN Gas-Fired Heating Equipment. It has resulted in improved comfort and convenience with gas heating, and has brought leadership to our products.

Engineers are continuing this research so that when materials and labor are again available, product development in the post-war era will proceed without delay.

In the meantime we are furnishing AMERICAN Gas-Fired Heating Equipment for essential replacement, subject to prior commitments, curtailed production and war needs. We invite inquiries as to the status of any product.

Our Institute of Thermal Research, Yonkers, N. Y.—completely equipped with all modern facilities for research and experiment.

AMERICAN RADIATOR & Standard Sanitary
New York CORPORATION Pittsburgh



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Gas Enriching Oil

From the Viewpoint of the Gas Industry

By

P. T. Dashiell,

Vice-President
The Philadelphia Gas Works Co.,
Philadelphia, Pa.

IN THE subsequent discussion the above title is construed to mean:

(a) In the years to come, can that portion of our Industry, which is engaged in making carburetted water gas, expect to have available petroleum products sufficient for its needs and of quality such that it can, by use of its present or similar equipment, manufacture carburetted water gas of normal calorific value at costs comparable to those of the past several years?

(b) What is the character of the petroleum products which will, in all probability, be available?

The direct answer to the first question is "yes." The reasons for the affirmative answer I believe to be as follows:

From the most recent reports of the Petroleum Institute and from several recently published articles by prominent engineers and geologists of the Oil Industry, it seems clear that proven reserves of crude petroleum in the United States, as now estimated, are greater than at any time in past history despite the tremendous demands for production caused by the war.

New findings of oil in the last two years are less, as compared with other periods, but in spite of increased demands of the war period, new findings plus more accurate estimates of the volume of proven reserves slightly exceed that demand.

Now, add to this potential reserve the possibility of large imports of crude oil from neighboring countries in this hemisphere, and it is quite apparent that there will be sufficient crude oil to meet the demand of all the refineries in the Country and, in turn, all the demand for petroleum products for many, many years to come.

There seems to be not the slightest indication of a scarcity of crude oil.

According to the statistics of the American Gas Association—Bulletin 53, year 1942 (the latest available)—the total consumption of oil by the Gas Industry, both of the fuel class and distillate, is, in round figures, 750,774,000 gallons or 17,800,000 barrels. In this year (1944) the oil consumption probably differs but little from this. By far the larger proportion of this total is of the fuel oil class.

The total industrial fuel oil production, exclusive of domestic light fuel, is 441,000,000 barrels. This shows that the oil used by our Industry, for carburetting water gas, is but a minor portion, of the order of 4% of the total.

The oil so used by our Industry is not used in combustion, but in a chemical process producing gaseous fuel at a high efficiency—over 90% of total heat recovery of the original oil including a residual tar which is a potential liquid fuel.

As long as there is a sufficiency of crude oil it seems certain that manufacturers of carburetted gas will be able to secure the modest proportion of the total fuel oil produced in the country which is required to operate their process.

Conservation of the Nation's oil resources is of paramount importance—a gallon of oil withdrawn and used up is a gallon gone. Our whole national life is built around the free use of petroleum products. I repeat, conservation of oil is a necessity. Any effort on the part of our Industry to that end is of course in the right direction, but from the foregoing comparisons it can be seen that even if we ceased entirely to use any oil in the manufacture of gas, the net effect upon the actual conservation will be relatively small. Furthermore, nothing that the Gas Industry may do or not do is going to have much effect upon what the Oil Industry does.

Under present day conditions, as long as oil refining continues, oils of the fuel class will be produced. Even if the demand for higher priced petroleum products increases materially, the various residues from the different refining steps, which make these products, will be returned to fuel oil stock and be sold as Bunker or residual oils for industrial fuel. If sold as industrial fuel oil, these must carry a price which is related to and in competition with solid fuel—coal.

With present prices for coal and with those which are probable after the war, the related price of heavy fuel oil will be, in all probability, such as to make it feasible to produce carburetted water gas of normal calorific value, say 530 to 600 B.t.u., at costs not exceeding those which have been current in the immediate past.

It is to be remembered in this connection that the Oil Industry is capable of and has developed methods which, by processing and reprocessing residues, can convert the major portion of a volume of crude oil into gasoline and other high priced products, leaving a solid as a residue, but that under normal conditions the economics favor the direct sale of residues as fuel oil.

With present prices of coal it seems most probable that this latter condition will continue to exist. Should there come, however, a condition similar to that of 1932-36, when, due to excess production of heavy fuel, a depressed price condition resulted, the production of fuel oil may be curtailed as described.

It therefore seems that, under the conditions which are most likely to exist in the post war period, there will be no upset in the general use of the carburetted water gas process by a scarcity of carburetting material.

In this connection, however, the following should be made clear:

In the manufacture of the high priced petroleum products—gasoline, lubricants, bases for explosives, plastics, etc.—the basic material or charging stock is distillate oil including uncracked gas oil, and except for minor quantities it is quite probable that gas oil, used by some gas manufacturers for carburetting, will be unavailable or available only at relatively high price.

In my opinion those who still cling to the use of gas oil, because their plants are equipped only for its use or that of some such material, are in a precarious position, and should, as quickly as practicable, arrange their plants to efficiently use oil of the heavy fuel class, thus adding materially to the flexibility of their operations, and reducing the cost.

The history of our Industry in this respect shows clearly that it has adapted its equipment, from time to time, to use in its operations those materials which were most easily available and therefore lowest in cost.

An examination of the design of carburetted water gas apparatus from

Presented at American Gas Association Technical Section Joint Production & Chemical Committee Conference, New York, N. Y., June 6-7, 1944.

the time of Lowe to the present will indicate this;—at the beginning, petroleum naphtha, then light crudes, gas oil, and of late years oil of the fuel or residuum class with high coke residues, which last were considered impossible to use during the naphtha gas oil era which ended about 1930. The last named are going to be the most easily obtainable in the next years and the lowest in price.

Flexibility and low cost of operation are necessities today and must be secured if we are to retain our position as purveyors of gaseous fuel for domestic cooking, water heating, space heating and industrial work.

Low cost of our gas per therm must be obtained. Under present price conditions the source of the therm of lowest cost in our gaseous mixture is, in most cases, petroleum in some form or natural gas, and these conditions will probably prevail for a long time.

For reasons which have been given above, I do not subscribe to the idea that an objective of gas manufacturers should be to get away from the use of petroleum and its products and towards the use of coal or its products. Nor do I at all agree that our Industry will have any use for processes for the hydrogenation of coal or any thing else for years to come. The thought that we are to be compelled to use any of them in even the fairly distant future seems fantastic.

Therms whose source is petroleum are going to be available whether we use them or don't. In all probability there will be no process available for operation for several years which will produce gaseous fuel at a cost per therm lower than that obtainable from the use of oil. When and as such processes develop, will be the time to change.

There follows certain references to published data upon which some of the foregoing statements are based, and an Appendix showing the physical characteristics of a number of residual fuel oils and other carburetting materials, which should be useful, particularly to those water gas plant operators who have had no experience with the use of residual fuel oil.

REFERENCES

(1) Report of Committee of American Petroleum Institute on Petroleum Reserves—by J. Edgar Pew, Chairman, 1943.

(2) Article—National Petroleum News, April, 1944—"Control of Excess Crude Likely Post War Problem"—Sidney A. Svensrude, Vice President Standard Oil Co. of Ohio.

(3) Article—Nation's Business, May, 1944—"We're Crying Wolf in Oil Again"—Wallace E. Pratt, Geologist, Vice President, Standard Oil Co. of New Jersey.

Plant Operating Results

	Spec. Grav. API°	Con-radson Carbon %	Sul-phur %	Viscosity at 122°F. Saybolt-Furol seconds	Ash %	Hydrocarbons, % A	B	C	D	Carburetting Value by Laboratory Set Btu/gal. @ Temp. °F.	Btu	Oil gals. Per M.	Gen. Fuel (Coke) lbs. per M.	Tar Yield gals. per M.	
(1) Fuel Oil	12.3	8.2	1.0	83	0.05	14	26	40.8	19.2	85,000	1525	531	4.83	17.2	1.31	Reforming 22%
(2) Blend of heavy uncracked residuum like #4, fluxed with low viscosity tar, like #3	16	8	.5	300	1.5	8	28	50	14	91,400	1400-1500°	532	3.54	23.12	1.02	(Operation (6 mos. period (No reforming
(3) Cracking Plant Tar	3.4	8.4	1.43	21		12	44	25	19	67,600	1594	No plant results				
(4) Straight Run Residue, too viscous to be sold under Fuel Oil specifications	10.7	12.4	0.75 to 5.000 to 10.000		1.67	10	30	44	16	101,400	1375	No plant results				
(5) Gas Oil of fair quality	24.2	1.6	0.45	13		8	8	63.8	20.2	105,000	1450	527	3.47	24.1	.96	1 yr's operation
(6) Fuel Oil "X"	22.3	4.84	2.17	18		10	16	62	12	104,000	1400-1500°	531	3.65	20	.96	
(7) Fuel Oil "Y"	19.7	5.06	1.67	53		8	24	53	15	104,000	1486	535	3.88	19.2	1.08	Reforming 10%
(8) Fuel Oil "Z"	14.7	7.14	0.68	281		10	26	48.6	15.4	96,500	1400	531	4.15	15.4	.97	Reforming 20%
(9) Cracked Gas Oil	22.5	0.14	.26	10	Nil	14	20	44.9	21.1	80,000	1400	536	5.13	15.7	1.31	Reforming 18%
(10) Blend of material like #4 with material like #11, except enriching value is higher	13	11.7	1.03	1500	1.06	10	18	54.5	17.5	111,632	1580	552	4.29	13.92	.60	Reforming 33%
												570	4.07	19.78	.66	No reforming
(11) Bunker C Oil Low viscosity	22.3	2.68	0.53	14	.06	12.4	24	54.6	9.0	104,000	1430-1570°	535	4.15	14.0	1.00	(Operating results (last period (Reformed 15-CC
(12) Gasoline - Cracked	58.5	Nil	0.03		Nil	16	22	54.8	7.4	102,857	1514	No plant results - See Poughkeepsie test				
Straight Run	65	Nil	0.03		Nil	8	4	81.8	6.2	116,900	1450	No plant results on similar material, A.G.A. Monthly, January 1943				
(13) Heavy Naphtha	38	.18	.27		.02	16	30	51.3	2.7	98,936	1604	No plant results				
(14) (a) Gasoline	58.2	Nil	Trace		Nil	10	6	76.4	7.6	124,217	1326	No plant results				
(b) Bunker C	15.4	8.4	.70	348 (Over 10000 at 33°F.)	.72	12.4	20	52.1	6.3	108,000	1465	No plant results				
(c) Mixture - 27.5% (a) 72.5% (b)	24	6.5	.56	Too low (253 at 33°F.)	.55	12	22	59.6	6	112,000	1305-1400	No plant results				

(4) Address by A. E. Pew, Vice President, Sun Oil Co.—American Gas Association Production Conference, 1940.

(5) Papers by P. T. Dashiell, Vice President, The Philadelphia Gas Works Co.

(a) American Gas Association Convention, October, 1930.*

(b) New England Gas Association, February, 1931.*

(c) American Petroleum Institute, Tulsa Meeting, June, 1932.*

(d) "A New Field for the Economic Utilization of Fuel Oil."

* Discussing the use of high coke oils in carburetting water gas.

(6) Paper by W. J. Harvey—"The Use of Bunker Oils on the Atlantic Seaboard," American Gas Association Production Conference, 1931.

Appendix I

Each of the 14 descriptions of various oil quoted in this Appendix is quoted to illustrate, either directly or by comparison, some important point. Most of the oils described are of the fuel oil class. Operating results, where quoted, were obtained by use of methods and equipment arranged for carburetting with material having high Conradson carbon. The others are gas oils, naphtha or gasoline, quoted for results to be compared with those from fuel oils.

It is to be noted—

First—The great diversity in types of oil shown—Residual Fuel, Gas Oil and Gasoline (cracked and straight run) and blends of heavy residuum with various materials of lower viscosity.

Second—That the optimum enriching value of each, except Nos. 3, 10 and 12 (a), is obtained at cracking temperatures between 1300 and 1500 degrees—a temperature easily obtainable in any checkered superheater of a water gas set with normal operating cycle. This is true also of the blended oils. In No. 14 the enriching value of the blend of gasoline and fuel oil lies between that of the constituents.

It may be deduced from this that the old superstitions regarding the difficulties of using blended oils are to be discarded.

Reference is now made to the section marked "Hydrocarbons."

The method of dividing a sample of oil into constituents marked "A", "B", "C" and "D", is given below:

A—Aromatics

Run 25 cc of the distillate to coke into a graduated separatory funnel—add 25 cc dimethylsulphate—shake for five minutes—centrifuge five minutes—decrease in volume of oil multiplied by 4 = % volume Aromatics on distillate to coke.

B—Olefines

Drain off dimethylsulphate layer carefully—add 25 cc of 93-95% sulphuric acid—shake for five minutes—centrifuge for five minutes—decrease in volume of oil times 4 = % Olefines on distillate to coke.

C—Paraffines

The paraffines are found by difference, viz., 100 minus (A+B+D) = % Paraffines on distillate to coke.

D—Naphthenes

Carefully pipette 5 cc of upper layer of oil remaining from the olefine test into a Babcock bottle—treat with three lots of 10 cc each of nitrating acid (equal volumes 70% nitric acid and 95% sulphuric acid)—shake vigorously after each addition of acid and keep cool by immersing in water—add sulphuric acid to bring contents of bottle to a point where reading can be made on graduated neck—whiz for five minutes—decrease in volume of oil divided by the percent of oil pipetted then multiplied by four = % Naphthenes on distillate to coke.

It can be seen that oils showing high percentages of C and D, particularly C, have highest enriching value, and those which have high percentages of A and B have lower enriching value, but all the oils under discussion have a fairly large percentage of C and fairly good enriching value. No. 3 is low in both C and D and has lowest enriching value and low viscosity. For comparison with No. 3 note No. 12, straight run gasoline, with a C content of 81.8% and enriching value 116,900 B.t.u.

It is to be noted that the higher the C and D contents, the higher the enriching value, the lower the tar yield. Compare No. 10, gasoline, which yields (from Poughkeepsie Plant Test report) practically no tar, and No. 5, gas oil, .86 of a gallon of tar per M. (22% of the oil used) and No. 9, cracked gas oil, 1.31 gals. of tar per M. (25% of the oil used), and No. 1, fuel oil, 1.31 gals. of tar per M. (27% of the oil used).

It may be deduced from the above that the materials of a complex oil, which, upon cracking in a water gas process, yield at least the major portion of the enrichment of blue gas, are of the same general character in all the various types of carburetting agents here discussed. Optimum enriching value being obtained in the same temperature range.

The larger the percentage of these C and D contents, the greater the enriching value per gallon of oil, the lower the oil per M. for a given B.t.u., the lower the tar yield for two reasons—lower oil per M. and lower yield per gallon of oil.

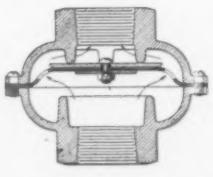
The ingredients of an oil marked here "A", "B", "C" and "D" have in the past been loosely termed Aromatics, Olefines, Paraffines and Naphthenes. The use of these terms is possibly incorrect if the method of division, described here, is used. Whatever names may be given to the ingredients, however, if this analytical method is used, the results shown above can be used as indications of the usefulness of a given oil in carburetting.

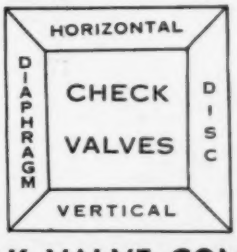
It is not advisable to assume that a temperature giving optimum enriching value to an oil obtained in the Laboratory cracking set must be used in actual operation in the superheater of a water gas set, because in actual operations factors enter which are not present in the Laboratory, such as excess steam present, time of contact, condition of brick surfaces. The Laboratory set results are simply indications of possibilities.

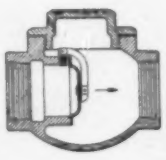
Comparison of (1) with (2), (6), (7) and (9) will show the effect of reforming, i.e., admission of oil during the backrun—on fuel and oil consumption.

Oils under discussion here all have a sulphur content under 2% with one exception, No. 6. Water gas made from oils having above 2.5% sulphur will probably contain high organic sulphur, perhaps over 30 grains per 100 cu. ft. Therefore, discussion of such oils has been omitted.

Pressure Controls for Gas and Air







NORWALK VALVE COMPANY

85 Spring St. South Norwalk, Conn.

Some Experience and Problems in Gas Mixing Incurred in Meeting Wartime Demands

By
E. C. Brenner
Chief Engineer
Milwaukee Gas Light Company

EARLY IN THIS WAR it became apparent that the Gas Industry, like all industry directly related to the war, would be called upon to meet the increasing demands for its services and to meet them under the conditions of a wartime economy. History and experience of the World War I period indicated the general pattern of the problems. The first major demand on production and distribution facilities of the Milwaukee Gas Light Company system occured in the week of January 5, 1942. The maximum demand of that period took place on Monday, January 5th when 38,932,000 cubic feet were delivered to mains. This demand represents an increase of 17% over the previously experienced maximum demand of 33,303,000 cubic feet on March 17, 1941. The daily average for the 3-day maximum period of the week of January 5, 1942 was 38,324,000 cubic feet per day. Withdrawal of gas from storage for the maximum day was 2,133,000 cubic feet; and total decrease in storage for the 3-day period was 712,000 cubic feet. Holder capacity for the system is 21,000,000 cubic feet; and is hence equivalent to 54% of the demand of the maximum day. Obviously this experience imposed an unusually heavy demand on productive capacity.

The satisfaction of this unprecedented demand must be considered a most fortuitous circumstance. It was possible only because all major pieces of plant equipment were available. No Water Gas set was out of service for recheckering or other cause of normal non-availability. All boilers and other auxiliary pieces of plant equipment were in operation, many of them considerably above their rated capacity. The repetition of such a fortunate set of circumstances can not be expected. Added production capacity must therefore be provided.

Gas distributed in the Milwaukee metropolitan system is 100% manufactured gas; and as of 1942 consisted principally of a mixture of By-product Coke Oven Gas and Carburetted Water Gas. Since Coke Oven Gas constitutes the base load gas, its percentage in the mixture varied from 95% in the summer period to 50% in the peak periods of the winter season. Corresponding specific gravity variation ranged from .36 to .50. The heating value standard maintained is 520 B.T.U.

Gas mixing and the problems associated with gas mixing were therefore not a new problem in the system. Experience had shown that when the specific gravity of the mixture reached the upper or lower limits, an increase in customer service calls could be expected. Such increase in service calls were predominantly requests to adjust appliances. For years the company has maintained a record of customer requests for service and classified them under four major divisions: "Appliance Repairs," "Leaks," "Poor Supply" and "Adjust Appliance." The relationship between the total number of customer requests, their classification and the analytical reports of quality of mixed gas have been under constant observation. To the extent possible, this relationship governed the mixing of the constituent gases.

In a consideration of the methods of obtaining added productive capacity, the quality of the resulting gas mixtures was therefore given careful consideration. Peak load mixtures, even though of short duration, must result in reasonably good service at customers appliances.

From earlier studies of means of obtaining added capacity, it was concluded that two projects were capable of realization under the limitations of a war economy and the limitations on supply then in effect. These projects were:

1. **The release of approximately 3,500,000 cubic feet per day of additional Coke Oven Gas through substitution of other fuel gas for the Coke Oven Gas normally used for the underfiring of two blocks of Solvay type ovens.**
2. **The production of Propane-Air Gas or Butane-Air Gas to supplement the mixtures of Coke Oven and Water Gas.**

E. C. Brenner

Based on studies of Butane underfiring of horizontal flue Solvay ovens made in early 1943, the Coke Plant during the summer of 1942 experimentally heated several ovens of a battery with a butane air mixture. The results of these experiments were sufficiently satisfactory to conclude that a proper installation could effect the release of 3,500,000 cubic feet of additional Coke Oven Gas per day. Addition of this quantity of low gravity gas to the mixture would be most beneficial in controlling the trend of increasing specific gravity of mixed gas whenever the ratio of Water Gas increased. This project of underfiring from the nature of the process, was contingent on the availability of approximately 18,000 gallons of Propane per day. Butane, at that time, was not considered available since it was then reserved for synthetic rubber production. Procurement of the necessary Liquefied Petroleum Gas storage and other facility were also problems of major importance. The story of the obstacles encountered in obtaining necessary approval, rating and delivery; the engineering modifications and the resourcefulness of all who participated in making this added amount of Coke Oven Gas available

by Mid-December of 1942 are too lengthy a recitation to fit into the time allotted. It is however a most interesting example of persistence and ingenuity.

Urgency to develop added peak-load capacity also led to further experimentation with mixtures of Liquefied Petroleum Gas and Liquefied Petroleum-Air Gases. These efforts were directed to explore their suitability in mixtures of Coke Oven Gas and Water Gas.

In 1932 the American Gas Association Testing Laboratory, in an investigation of "Utilization of Butane-Air and mixtures of Butane and various City Gases Employed to Meet Fluctuating Demand," reported for a gas of 550 B.T.U. heating value standard, that:

"Butane-enriched producer gas could be used to replace 10% of a Coke Oven Gas base, 25% of a Carburetted Water Gas base, and 20% of a natural-blue gas base."
"Butane-air could be used to replace 10% of a Coke Oven Gas base, 15% of a Carburetted Water Gas base, and 15% of a natural-blue gas base."

The report of investigation "Augmentation of Various Base Gases with Butane-enriched Blue Water Gas of Higher Heating Value" also states that:

"A 790 to 800 B.T.U. blue-butane mixture will satisfactorily replace a 585 B.T.U. Coke Oven or Coal Gas base supply."

Further investigations of interchangeability have been developed. Thus it is apparent that most of this and other reported work has been done on finding suitable substitute gases for a single gas, and offer indication only of what might be expected when butane-air is added to a two-component mixture, such as a mixture of Coke Oven and Water Gas. It was therefore decided to conduct an investigation more directly applicable. In essence, the following test procedure was adopted:—

Appliances representative of those in use according to type and age were accordingly connected to a source of Coke Oven-Water Gas mixture of near normal composition and adjusted representative to field conditions. Three laundry plates of good manufacture were also connected and their burners adjusted "hard," "medium" and "soft" respectively. Observations of gas calorific value, specific gravity, gas chemical composition and aeration of burners were made. Burner readings were also made of a Test Burner constructed and operated essentially as the "Rochester Test Burner." The "test gas" was then introduced and variation in appliance operation observed.

From a series of tests thus conducted it could be concluded that Butane-air up to 10% in the resulting mixture could be added without seriously affecting the performance of appliances under test. It was also indicated that 15% butane-air addition would result in appliance performance which might be considered tolerable under peak load or under emergency conditions. Relationship between performance of these appliances and Test Burner "Number" was also observed.

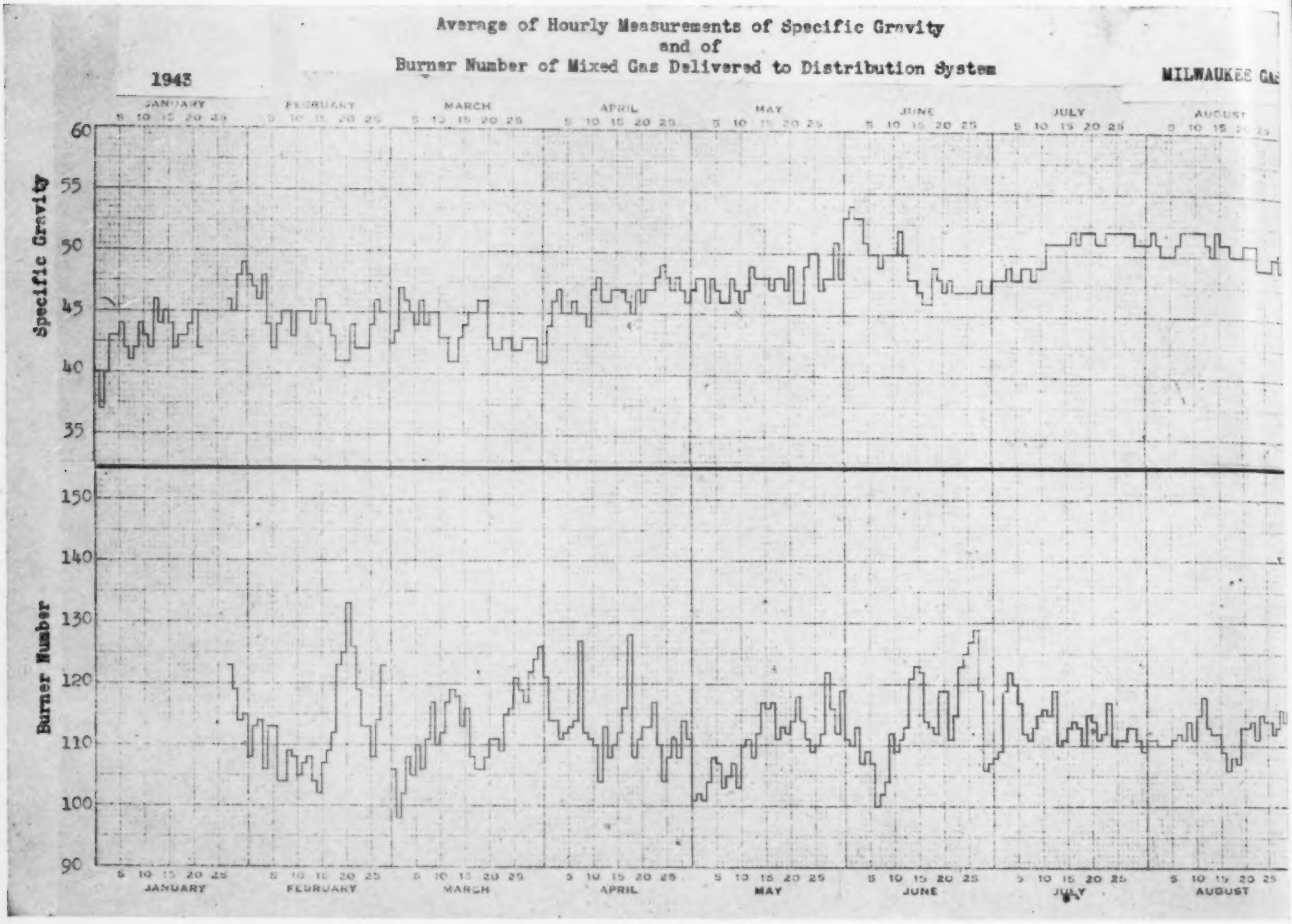
Based on an addition of 10% Liquefied Petroleum Gas-Air Gas additional productive capacity of 4,000,000 cubic feet per day could thus be obtained. Further study indicated that the process represented an economical use of critical materials. Considerable salvaged material and equipment could be employed. A project to provide such capacity is obviously contingent on the availability of Liquefied Petroleum Gas and procurement of storage and mixing facility. Storage capacity of 100,000 gallons of Liquefied Petroleum Gas was considered necessary. Limitation however on use of critical materials existing at the time made it apparent that such storage could not be obtained in time for the coming peak season. Unavailability of Butane and of Propane in late 1942 also ruled against the project for the 1942-1943 winter season.

In early 1943, changing conditions in the synthetic rubber program and in transportation facility made some butane available. It was therefore decided to do further investigation of the characteristics of Liquefied Petroleum Gas mixtures. In this instance however, it was decided to produce mixtures low in Liquefied Petroleum Gas-Air Gas percentage and to produce this mixture in sufficient quantity to permit normal distribution to the entire service area. Results in customer appliance performance were then to be observed. If the results were favorable, the ratio in the mixture was to be increased. Three tank-cars of Butane, approximately 30,000 gallons, were available for these trials. Since liquid storage was not to be had, and since the diversion of rail tank-cars for storage could not be permitted, it was planned to vaporize the entire contents of the tank-car immediately on receipt. The vaporized gas was then to be stored in a 3,000,000 cubic foot holder, the smaller of the four storage holders at the center of distribution. Air was to be introduced simultaneously with the gaseous butane and with the Coke Oven-Water Gas mixture. Vaporizing of liquid butane was to be done in a salvaged tubular gas condenser of ample capacity. Delivery of the butane cars accordingly was scheduled for arrival at two-day intervals. Misunderstanding of instruction however resulted in an earlier movement than anticipated, and in the arrival of all three cars on the same day. Arrangements for vaporizing and mixing unfortunately had not been completed. Rather than delay the unloading of the cars, it was decided to vaporize the entire 30,000 gallons in a single day and to store the resulting butane gas with the gas mixture in the holder at the time without addition of the required complement of air. The resulting mixture of gases was now approximately 800 B.T.U. per cubic foot. Introduction of air therefore would have to be made when this rich mixture was drawn from the holder.

This circumstance of storing the equivalent of 30,000 gallons of butane as a gas in the conventional gas holder gave rise to a novel development. If it is possible to store an 800 B.T.U. gas mixture containing appreciable amount of butane, why not store butane in the same manner? A 3,000,000 cubic foot storage holder could thus store the equivalent of 10 cars or 100,000 gallons of butane. This was the extent of Liquefied Petroleum Gas storage we considered necessary for the project.

Among the first questions to be raised with respect to such storage was "What of condensation to liquid butane in a water-tank type of gas storage when atmospheric temperature drops to 0°F. or lower?" Inquiry into the experience of other operators yielded little helpful information. After study it was concluded that condensation to the liquid would undoubtedly take place, but that such liquid condensation would be re-evaporated immediately on contact with the water of the holder cups or tank. This same action takes place with the condensible hydrocarbon constituent of manufactured gases. The extent of condensation and re-evaporation being proportional to the heat loss of the holder. This heat loss must be the same regardless of the gases stored. It would therefore seem entirely feasible to store butane as a gas in the conventional gas storage holder.

The next question to be answered was "If this holder can be reserved for straight butane storage, can the available storage capacity of mixed Coke-Oven-Water Gas be decreased by 3,000,000 cubic feet and still maintain workable balance between pro-



duction, storage and delivery to mains under all load conditions?" Since storage is to be diverted to another gas and not lost, the effect of decreasing mixed gas storage is not as serious a matter as appears on first consideration. While the storage of mixed Coke Oven and Water Gas is thus decreased, the total storage capacity for gas therms of the holder station is increased by approximately 70%. Under operating conditions an increase of approximately 50% in workable storage could be realized.

The importance of this storage cannot be over-emphasized. Experience of the past 12 months has demonstrated that the many factors which govern the availability of Liquefied Petroleum Gas in wartime also result in widely varying supply and that this condition changes on very short notice. Since these factors are so unpredictable, it is imperative that the storage of Liquefied Petroleum Gas be maintained at the highest practicable limit. In operation, attempt is therefore made to maintain a minimum working storage of 2,000,000 cubic feet of undiluted butane gas to meet peak load demands.

Further trials of Butane-Air additions on a general distribution basis showed that a 10% addition of Butane-Air gas would result in satisfactory performance of the appliances as now adjusted. With this trial experience as a background, the approval of the Public Service Commission was obtained for the regular use of Liquefied Petroleum Gas for mixing with manufactured gas.

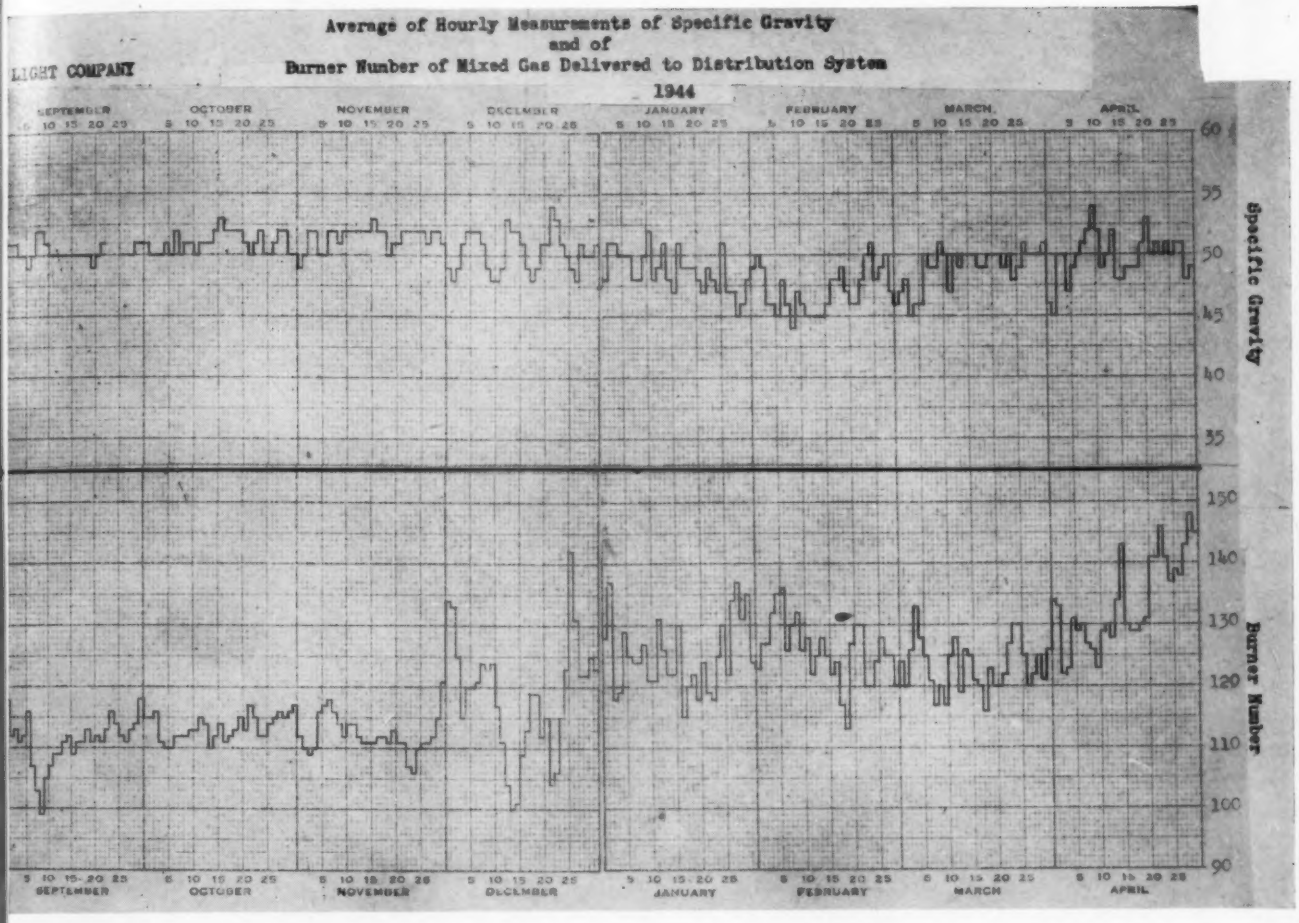
Storage of 2,000,000 cubic feet of undiluted butane when converted at a production rate of 4,000,000 cubic feet per day of a 520 B.T.U. equivalent Liquefied Petroleum Gas-Air Gas can therefore suffice as supplementary production for a 3-day peak period. In actual practice Liquefied Petroleum Gas enriched gases were produced on an intermittent basis throughout the past year; the quantity being dependent on the amount of Liquefied Petroleum Gas available. Most recently, liquid storage for 24,000 gallons of butane has been made available.

Production of a mixed gas consisting of base load Coke Oven Gas of low specific gravity, of carburetted Water Gas of varying calorific value, and of liquefied Petroleum Gas-Air gases under the conditions described, obviously introduce a considerable problem of controlling the quality of such a mixture. Since the component gases are definitely limited as to quantity available at a given time, it is apparent that the maintenance of a fixed ratio of gases in the mixture is impossible. Automatically controlled mixing is therefore out of the question. A program of production and procedure of manual control of the mixing operation had therefore to be developed.

At the present this procedure is as follows:—

The mixture of Coke-Oven and Water Gas is produced in the required quantity and at a calorific value below the 520 B.T.U. standard required for distribution. This mixture is then transmitted to the holder station arriving at a holder inlet distribution box common to all holders. Butane-air gas of calorific value above 520 B.T.U. is also introduced at this point; the quantity and calorific value depending on the quantity and quality of the gases received. Further mixing and diffusion takes place in each of the three 6,000,000 cubic foot storage holders.

Control of calorific value to 5 B.T.U. plus or minus, as indicated by a recording calorimeter, is readily obtainable; and control to 2 B.T.U. plus or minus over a 24-hour period is not unusual. The



test burner used in the earlier experimental work has subsequently been kept in regular service. Hourly observations of gas delivered to mains are made by the attendants of the holder station. Variation in test burner "Number" throughout the day confirm uniformity of the mixture; the variation being 15 points in a scale ranging from "Numbers" 100 to 150. Continuous record of specific gravity further confirm the extent of uniformity of the mixtures.

Daily averages of specific gravity and of burner number have been computed and are graphically presented. Graphical analysis has also been made of the number of daily requests for customer service to show both the "Total Requests for Service" and that portion which are "Requests to Adjust Appliances Only." Slides have been prepared of these graphs for the period January 1, 1943 to May 1, 1944. From these it can be observed; (1) that no obvious relationship exists between specific gravity and burner number for the complex mixture of gases distributed; (2) that low burner number is generally associated with an increased number of requests to adjust appliances, and (3) that there has been an appreciable decrease in the number of requests for service from customer for the first 4 months of 1944 compared with the corresponding period of 1943; the decrease being about 40%.

It should not be concluded that all or even a major portion of the total decrease can be ascribed to the factors of added capacity in Coke Oven Gas and in Liquefied Petroleum Gas-Air Gas production. There are many other factors involved in such a decrease. These factors, however, show their principal effect in the number of requests designated as "Leaks," "Poor Supply" and "Appliance Repair." The decrease in requests to "Adjust Appliances" may however be properly credited in a large measure to improved control of mixing gases. It is also quite possible that the introduction of butane as a "slow burning" constituent in a mixture of gases high in hydrogen content may have a decidedly beneficial effect on the performance of appliances in service. Further investigation of this possibility appears to be warranted.

Presented at the War Conference of the Wisconsin Utilities Association at the Pfister Hotel, Milwaukee, Wisconsin, on May 19, 1944.

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RECENT COURT DECISIONS *Affecting Gas Utilities*

Review of New Gas Litigations

By
Leo T. Parker
Attorney at Law
Cincinnati, Ohio

RECENTLY, the higher courts rendered many important decisions having special interest for our readers. Not only may these hereinafter ctied cases be utilized as a basis for future conduction and operation of gas corporations but, also, these new cases may be used advantageously to win favorable verdicts in unavoidable suits.

For example, in Bishopric v. City of Jackson, 16 So. (2d) 776, reported April, 1944, it was shown that city officials assigned to a private company a half interest in gas leases held by the city. The company drilled four producing gas wells thereon in reliance upon the contract and assignment of one-half interest by the city officials. Later the higher court held the contract void, and said:

"Gas can not be divided. In its nature It must all start out in one pipe. To distribute it the streets and alleys of the city must be used for laying pipes. By its very nature the business is continuing, requiring bookkeeping and accounting."

Therefore, according to this modern decision a city must be the sole proprietor of property in which it invests its public funds, and it cannot unite its property with the property of individuals or corporations so that, when united, both together form one property.

Purchasers Must Pay Tax

Modern higher courts consistently hold that a state law is valid which requires purchasers of gas, and by-products, to pay taxes thereon.

For instance, in W. R. Davis, Inc., v. State, 176 S. W. (2d) 978, reported January, 1944, a state law was litigated which levied an occupation tax on the business of producing gas. The amount of the tax was computed upon the gross value of products extracted from the gas and imposed liability for payment of the tax upon the purchasers from the producers.

It was contended that the tax law is invalid because it violates constitutional provisions relating to taking of property for public use and "due course of law," and the Fourteenth Amendment.

The higher court held the law valid, and said:

"Thus there is no discernible discrimination or unjust taxation, where the same rule applies to all of the products extracted from the gas, and where the residue of the gas so treated had been returned to the same producing formation in the ground, from whence the gas in its original wet state was produced."

Also, see Southern Kraft Corporation v. Hardin, 169 S. W. (2d) 637, where the higher court held that although the state legislature intended to exclude from taxation articles, commodities, transactions, or things exempted by the State and Federal Constitutions, this intention did not render gas brought into the state from another state exempt from the state sales tax where the testimony showed that the sales had lost the characteristics of "interstate commerce."

Brief Review

Generally speaking, a municipal ordinance is void which contradicts or violates a state law. However, in Klepak v. Humble, 177 S. W. (2d) 215, the higher court held that a state statute authorizing the Public Utility Commission to regulate the production of gas within the state does *not* repeal an ordinance granting the municipality power and authority to regulate drilling for and production of gas within the city.

In Peoples Natural Gas Company v. Pennsylvania Public Utility Commission, 34 Atl. (2d) 375, reported January, 1944, the higher court held that in determining the present fair value of a natural gas company's property, for ratemaking purposes, the Public Utility Commission should not have excluded the capital investment expended primarily for drilling wells, building pipe lines, etc. This court also held that if increased rates charged by a natural gas company are substantially upheld, the company should be allowed to amortize and collect from the consumers all expenses of procuring data required by the Public Utility Commission in the legal proceeding and suit challenging such rates.

In Browneller v. Natural Gas Pipe Line Company, 8 N. W. 474, the higher court held that a state statute conferring on a pipe line company the right of eminent domain for a right of way, and permitting the crossing of highways, waterways or public grounds on legal terms does not permit the taking of public property without requiring compensation to be paid therefor.

Therefore, according to this decision no public utility may appropriate either private or public property without making reasonable compensation.

In Moore v. Mosley, 48 N. E. (2d) 400, the higher court held that the purpose of construing a deed is to arrive at the intention of the parties by examining *all* portions thereof. In other words, its legal effect is to be gathered from the entire instrument, and its provisions should be enforced so as not to defeat manifest intention of parties. This court said:

"The general rule that the possession of the surface carries with it possession of all minerals beneath the surface has no application where the title to the surface has been severed from the minerals."

In Memphis Natural Gas Company v. McCanless (Gross Receipts Tax Case), 177 S. W. (2d) 841, reported April, 1944, the higher court held that an isolated sale of gas by an interstate pipe line company to a customer within a state did not make the

company a "distributor" of natural gas within a state statute imposing a tax for the privilege of doing business.

In this case it was disclosed that a Tennessee state law provides that each person engaged in the business of furnishing or *distributing* gas, whether to dealer, consumer, municipality or other customer, shall pay to the state an amount equal to three (3%) per cent of the gross receipts derived from intrastate business in the state.

The court held that a pipe line company delivering natural gas from another state to independent distributing agencies within the state was not "distributing natural gas" within this statute imposing a tax for the privilege of doing business. Also, this court clearly held that where distribution of natural gas is carried on by both an interstate pipe line company and a domestic company, only a *single* tax for the privilege of doing business can be collected by the state.

Also, the Supreme Court of the United States has held that the transmission of natural gas from one state to another, and its sale at wholesale in the state of destination, is interstate commerce upon which the states could lay no burden or tax. If the interstate carrier, however, distributes and sells the gas at retail in the state of destination, this business is local in its nature and not protected as interstate commerce. Therefore, a state taxation, as a sales tax, is valid and enforceable. See, Public Utilities Commission v. Landon, 249 U. S. 236; Missouri v. Kansas Natural Gas Company, 265 U. S. 298; and East Ohio Gas Company v. Tax Commission, 283 U. S. 465.

Dr. H. J. Rose Heads Research

Bituminous Coal Research, Inc., has announced the election of Dr. H. J. Rose, of Mellon Institute, Pitsburgh, as vice-president and director of research in charge of the expanded investigational and developmental program of the bituminous coal industry. This organization of coal operators, associations, and railroads in the Appalachian and Mid-Continent coal fields is enlarging its research projects on coal production and utilization to meet war-time problems and to prepare for and strengthen the industry's post-war position. More than two million dollars will be invested in this research program during the next five years.

J. W. Perry Elected Member of Controllers Institute

J. W. Perry, vice president and general manager of the Central Ohio Light & Power Co., Findlay, Ohio, has been elected to membership in the Controllers Institute of America. The Institute is a technical and professional organization of controllers devoted to improvement of controllership procedure.

MEMBERS OF THE POSTWAR PLANNING COOPERATING COMMITTEE CONFERENCE

FRONT ROW: A. M. Beebee, Chairman, Post-War Planning Committee, Rochester; Gladys Henshaw, American Gas Association Headquarters, New York; C. F. Turner, Chairman, Technical Section, Cleveland.

2ND ROW: L. E. Knowlton, Vice Chairman, Technical Section, Providence; Hall M. Henry, Cambridge, Mass.; J. V. Postles, Chairman, Postwar Planning Cooperating Committee, Philadelphia; T. L. Robey, Washington, D. C.; John I. Yellott, Director, The Institute of Gas Technology, Chicago; Benjamin Miller, The Institute of Gas Technology, Chicago.

3RD ROW: A. C. Cherry, Chairman, Distribution Committee, Cincinnati; H. B. Andersen, Philadelphia; V. J. Altieri, Chairman, Chemical Committee, Everett, Mass.; E. P. Noppel, Ebasco Service, Inc., N. Y. C. (Chairman, Coordinating Committee on Research); John J. Sebastian, The Institute of Gas Technology, Chicago.

BACK ROW: L. J. Willien, Associate Director, The Institute of Gas Technology, Chicago; H. L. Gaidry, (Chairman, Advisory Committee, Technical Section), New Orleans Public Service, Inc., New Orleans; R. Van Vliet, Vice Chairman, Gas Production Committee, Staten Island, N. Y.; E. J. Boothby, Vice Chairman, Manufactured Gas Department, Washington, D. C.

Photo, A. Gordon King

CRYSTOLON GENERATOR LINING—

"pays for itself in one year"

"We believe that (with a CRYSTOLON lining) cleaning time for a gang of six men has been reduced 1½ hours per day. This saving by itself would pay for a silicon carbide lining during the course of one year's operation."

That is the report of the production superintendent of a New England gas company. The CRYSTOLON generator lining was installed in July 1939 and the brick are still in service after more than 24,380 hours of actual gas-making time.

In length of service, too, a CRYSTOLON lining pays for itself.

CRYSTOLON (SiC) Brick are densely made to resist slag penetration. This means that clinkers can be easily removed leaving the bricks clean and undamaged. Because of their extreme hardness these brick have remarkable resistance to abrasion. They are chemically stable, physically strong and will not spall at elevated temperatures.

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War Production Board

and Other Administrative Orders

Construction

Permission to use the blanket construction allotment procedure, applicable to industrial construction and recently applied to certain types of military construction, has been extended to certain public utilities, the War Production, Board reported June 1st.

Under this procedure, utilities desiring to engage in construction will receive authorization to construct and permission to use the allotment symbol U-2 on Form WPB-2774 from the War Production Board. This symbol will serve to permit the utility that receives permission to use it to place authorized controlled material orders and orders for Class A product in sufficient amounts to complete the construction project that is authorized on Form WPB-2774. Furthermore, the permission to use the symbol will be valid for the term of the project.

Electric power, natural and manufactured gas, water, central steam heat, telephone, and telegraph are the utilities covered by the new rules contained in Direction No. 4 to Controlled Materials Plan Regulation No. 6.

These types of utilities are eligible to carry on construction authorized on Form WPB-2774 with materials they may obtain through the use of the allotment symbol U-2 and the accompanying preference rating that will be assigned on the form. Suppliers for such construction are eligible to pass on (extend) such symbol and preference rating to obtain the materials they need to fill the orders that bear the symbol or rating.

In placing orders for controlled materials or Class A products, persons who are eligible to use the U-2 symbol must endorse their orders with the standard form of certification contained in Priorities Regulation No. 7, together with the following statement:

"WPB-2774. OWU Serial Number ——. You are hereby authorized to use the abbreviated allotment number U-2 to order controlled materials and Class A products needed to fill this contract or order."

Delivery orders for controlled materials that bear the symbol U-2 in accordance with the terms of the direction are authorized controlled materials orders if they are in sufficient detail to be placed on a mill schedule and if they specify the month in which delivery is requested, WPB said.

Utilities may not, however, use the allotment symbol U-2 to place orders for controlled materials or Class A products with which to carry on construction if allotments covering such materials or products have been made on Form WPB-2774 covering specific amounts of controlled materials for specified quarters. In such case. procedures that are outlined in CMP Regulation No. 6, the basic CMP construction regulation, are to be followed.

Household Appliances

Demand for consumers durable goods and appliances is close to the levels immediately preceding the war, but a large number of families intend to use their savings for buying or building a house before purchasing durable goods, W. Y. Elliott, War Production Board Vice Chairman for Civilian Requirements, said June 1st in making public the results of the Office of Civilian Requirements' third nationwide survey of consumer requirements.

In the survey, made during April by enumerators from the Bureau of the Census, buying information was sought from about 4,500 families, selected as proportionately representative of the total population.

Among eleven appliances covered in the survey, washing machines are now in greatest demand, with electric irons and mechanical refrigerators in close second and third positions. Other items covered, in the order of present consumer preference, were cooking stoves. electric toasters radios, sewing machines, vacuum cleaners, heating stoves, electric fans. and water heaters.

The adjoining table includes items where gas appliances are concerned.

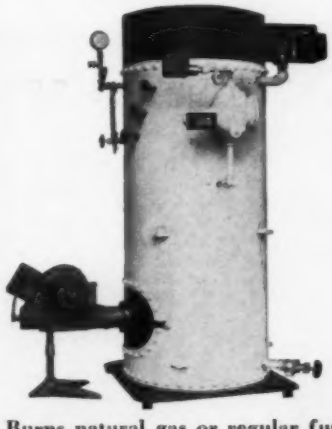
Item		Would Buy First	Would Buy Second
Washing machine		337	134
Electric iron		311	116
Mechanical Refrigerator		304	113
Cooking stoves—total		235	99
	—gas	92	50
	—oil	58	14
	—wood or coal	56	15
	—electric	29	20
Water Heater	—total	48	19
	—gas	24	5
	—electric	14	5
	—wood or coal	9	6
	—oil	1	3

Part 3288—Plumbing and Heating Equipment. General Limitation Order L-185 as Amended June 2d, 1944.

*(1) Use of copper, stainless steel and monel metal in manufacture.****

(2) Use of copper, stainless steel and monel metal in the installation of repair and replacement parts. No person shall in any repair or replacement use or install parts containing in the aggregate more than two pounds of copper or copper base alloy, stainless steel, or monel metal if the weight of the copper, copper base alloy, stainless steel, or monel

LATTNER
GAS — OIL BOILER
3 HP to 35 HP.



Burns natural gas or regular furnace oils with equal efficiency using same burner.

P. M. Lattner Mfg. Company
Cedar Rapids, Iowa

metal so used or installed exceeds by more than one pound the weight of copper, copper base alloy, stainless steel or monel metal replaced. The restrictions in this subparagraph do not apply to the replacement of ferrous heating elements for direct or indirect water heaters.

(3) All copper and copper base alloy replaced in any repair shall be delivered by the person making the repair to a scrap dealer or other person specified under Supplementary Order M-9.

Office of Industry Advisory Committees

The Domestic Cooking Appliance and Heating Stove Industry Advisory Committee met on May 26, 1944, to discuss: (1) report on production; (2) material programming; (3) rationing; (4) the lumber situation; (5) proposed amendments to Order L-23-c; and (6) manpower problems. Mr. Harry J. Holbrook (Plumbing and Heating Division, War Production Board) served as Government Presiding Officer.

Mr. Holbrook presented figures showing the actual production of domestic heating stoves and cooking appliances for the first quarter and the estimated production for the second quarter, including the first month's actual production (see table).

	1st Quarter Actual Production	2nd Quarter Estimated Production
Domestic Heating Stoves		
Gas, Radiant and Bathroom	90,504	116,330
Gas, Circulating Heaters	43,914	67,803
Domestic Cooking Appliances		
Gas Ranges	149,655	175,608
Gas Hot Plates	8,800	11,170

THIRD-QUARTER ALLOCATIONS

The OCR gas range program has been granted an additional allocation of 5,000 tons for the third quarter to improve the quality of the product (from Victory Model to the standard model), with the proviso that the number of units produced shall not exceed the second quarter total, Mr. Holbrook told the committee.

After thorough discussion, it was the consensus of the committee that unit production of stoves for the second quarter would not be a true reflection of the industry's third-quarter productive capacity. Members pointed out that the following factors are retarding production and reducing second-quarter output:

1. Difficulties experienced by "C" manufacturers in converting from the Victory Model to the standard model.
2. Difficulties experienced by "A" manufacturers in the resumption of stove production.
3. The impact of unexpected war orders on "A" manufacturers' production of stoves.
4. The withholding of ration certificates by customers in the expectation that stoves with thermostats would be available.
5. The difficulty of procuring sheet metal, on which delivery promises now extend until December.
6. The depletion of working inventory, which has increased load time considerably.
7. The uncertain labor situation.
8. The price factor.

The Committee maintained that the proviso stipulating that third-quarter production shall not exceed the number of units produced in the second quarter, impractical and unjust, especially if many of the difficulties mentioned above may have been eliminated.

FOR ECONOMICAL GAS PURIFICATION

Today's increased demands on the Gas Industry from both the production and home fronts has created many new problems in Gas Purification and sulphur corrosion.

In hundreds of plants throughout the country, Connelly Iron Sponge has not only helped decrease costly sulphur corrosion, but has also materially improved gas purification and lowered the operating and maintenance costs.

If you have a problem in gas purification, it will pay you to consult Connelly. A thorough analysis of your problem and unbiased recommendations will be made without obligation.

CONNELLY IRON SPONGE & GOVERNOR CO. CHICAGO, ILL.—ELIZABETH, N. J.

GAS PLANT EQUIPMENT

UGI REFINERY GAS REFORMING PROCESS
UGI NATURAL GAS REFORMING PROCESS
UGI HEAVY OIL PROCESS

GAS DISTRIBUTION
PIPE LINE CONSTRUCTION

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UNITED ENGINEERS & CONSTRUCTORS INC
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MAXIMUM RETURN TO CUSTOMER PER DOLLAR EXPENDED

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We are working on War Equipment and supplying Essential and Emergency Requirements for the Gas Industry.

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COMPLETE GAS HOLDER INSPECTION SERVICE
41 YEARS OF SOUND
STEEL PLATE CONSTRUCTION

News of the Gas Industry

The 1944 Southwestern Gas Measurement Short Course

The total enrollment for the Course this year was 545, with representatives coming from twenty-five states: Alabama, Arkansas, Arizona, California, Colorado, Connecticut, Georgia, Illinois, Indiana, Iowa, Kansas, Louisiana, Michigan, Minnesota, Mississippi, Missouri, Massachusetts, Nebraska, New York, New Mexico, Oklahoma, Pennsylvania, Tennessee, Texas, Wyoming, and from Ontario, Canada.

In normal years approximately sixty per cent of the persons enrolled in the Course have attended one or more previous Courses. This year a poll indicated that eighty per cent of those registered were attending for the first time. For the most part, these people were new employees in the gas industry, and they gained untold benefits through the instructional program offered. What they learned in the three days of intensive training will be reflected in their work, and will be of material aid to the war effort.

The last series of classes of the 1944 Southwestern Gas Measurement Short Course were held at 4 P.M. on June 8th. They were exceptionally well attended, and the interest was so keen that many of those present remained until a late hour discussing the problems with various instructors and equipment men.

On the last day of the Short Course, Mr. Earl Kightlinger, of the Arkansas Louisiana Gas Company, Shreveport, Louisiana, was installed as General Chairman of the 1945 Short Course. Mr. Max Watson, the retiring Chairman, becomes an ex officio member of the General Committee, and a member of the Executive Committee for the Course.

At a luncheon meeting on June 8, Mr. W. H. Woods of the Gulf Oil Corporation, Houston, Texas, was elected Chairman of the Practical Methods Committee. Mr. Woods will serve in this capacity for two years.

The Proceedings of the Course for this year will be published in bulletin form and will be ready for distribution on or about September 1.

The first Short Course was held at the University of Oklahoma in 1924. During succeeding years the enrollment has grown from 60 at the first Short Course to 576 in 1942. No Short Course was held in 1933 or 1943. During the twenty years the Short Course has been in existence, operating companies have sent over 9697 representatives to the Short Course and 36 manufacturers have exhibited educational equipment.

G. H. Smith Appointed Director Natural Gas Department

George H. Smith, Chief of the Gas Materials Section, Office of War Utilities, War Production Board, has been appointed director of the Natural Gas Department of the American Gas Association, effective August 7, and will be an assistant managing director of the Association. The announcement was made by Alexander Forward, managing director of the Association and J. French Robinson, chairman of the Department and Vice-President of the Association.

Mr. Smith, a B.S. in civil engineering, has in recent years been in charge of passing on applications for priorities submitted by natural gas and manufactured gas companies, both domestic and foreign. Eighty per cent of the cost of these projects was represented by the natural gas industry. His counsel and advice have been continually called upon in connection with the issuance of limitation orders and other forms of wartime control. In addition, his duties in Washington have afforded him the opportunity to become familiar with nation-wide problems of the gas industry and he is well known to the staffs of other Government agencies, including the Federal Power Commission and the Securities and Exchange Commission.

George H. Smith
Photo Blackstone Studios

Following fifteen years of gas utility operating experience, Mr. Smith became associated with the Empire State Gas and Electric Association, composed of members from natural gas, manufactured gas and electric utilities.

A.G.A. Annual Meeting To be in Chicago, Oct. 5-6

The twenty-sixth annual meeting of the American Gas Association will be held at the Stevens Hotel in Chicago on Thursday and Friday, October 5 and 6, 1944.

H. Vinton Potter Joins A.G.A. Staff

H. Vinton Potter

H. Vinton Potter, General Sales Manager, Fall River Gas Works Co., Fall River, Mass., will join the American Gas Association July 1 as coordinator of the efforts of the manufacturers and utilities in developing the Coordinated Gas Kitchen Program sponsored by the Association's Post-War Planning Committee.

In his new affiliation Mr. Potter succeeds C. V. Sorenson, chairman of the Association's Residential Gas Section, who since February has devoted his time to promoting interest throughout the gas industry in the coordinated gas kitchen program.

A special committee under the Chairmanship of John H. Warden, Vice-Chairman of the Residential Gas Section and Sales Manager of the Oklahoma Natural Gas Company, Tulsa, Okla., has charge of the promotional aspects of this program.

A graduate of Brown University, Mr. Potter joined the Blackstone Valley Gas & Electric Company as salesman in 1926, and advanced to the position of merchandise manager. He resigned from the company in 1937 to go to the Oklahoma Natural Gas Company where he served as merchandise and advertising manager, coordinating dealer activities in concerted sales drives and supervising the company's institutional advertising.

In 1940 he joined the Fall River Gas Works Company in his present capacity as general sales manager. Mr. Potter has been active in gas association committee work. He has been a member of the A.G.A. Refrigeration and Water Heating Committees as well as New England regional director of the Certified Performance range campaign. This year he was elected chairman of the sales division of the New England Gas Association.

Meter Reading and Billing

At the recent meeting of the Wisconsin Utilities Association, J. L. Anderson, chairman of the Accounting Procedure Committee presented a resume of reports of five Accounting Section Committees which was expressed in part as follows:

"The possibility of continuing the curtailed meter reading programs in the post war period was brought up but it appeared to be the predominant opinion that a definite decision could not be made at the present time. Customer acceptance now is based on these programs being war measures.

"The employment of women on jobs formerly held by men appears to have been extremely limited among all companies represented at the meeting.

"Placement of physically fit returning servicemen and women doesn't seem to be a serious problem. Where employes have gone into service it has been the usual practice to replace them with temporary employes.

"Use of postcard service bills in place of delivery by company employe has increased considerably in the last year due largely to a shortage of manpower and increased postal rates. In securing approval of the postoffice in the use of postcard bills it was pointed out that it is desirable to secure both the approval of the Third Assistant Postmaster General, Washington, D. C., who passes on the form of bill and the type of paper used and also the Solicitor for the postoffice, Washington, D. C., who has authority over legal technicalities.

"The practice of meter reading, billing, and collecting by the meter reader at the time the meter is read was reviewed. The discussion seemed to indicate that this procedure should only be used in areas where convenient pay stations are not available. Where a program of this type has been used it has been effective from a customer relations point of view.

"One company has experimented for a number of years with customer representatives in the larger urban areas. The duties of these representatives are similar to those of employes responsible for complete operations in small outlying areas. They read meters, deliver bills, collect delinquent accounts, handle high bill complaints, set and remove meters, answer minor service calls, sell merchandise, etc. Each representative is assigned an area which includes approximately 1000 customers. The company experimenting with this program has 10 such representatives in one community and had planned on further extension of the program until the outbreak of the present emergency."

New Officers Pennsylvania Gas Association

At the Annual meeting of the Association held in Philadelphia, May 2, the following officers were elected:

President, Charles K. Steinmetz, Carlisle; 1st Vice-President, Louis C. Smith, Harrisburg; 2nd Vice-President, C. B. Melton, Chambersburg; 3rd Vice-President, Frank H. Trembley, Jr., Phila.; Secretary, William Naile, Lebanon; Treasurer James A. Schultz, Reading.

Metropolitan Heating and Air Conditioning Council

At the last meeting held May 17 at A.G.A. headquarters, of the Metropolitan Heating and Air Conditioning Council, the following officers were elected to serve for the ensuing year: Chairman, William J. Schmidt, Long Island Lighting Company, Mineola, New York; Vice-Chairman, J. J. Wholey, Rockland Gas Company, Spring Valley, New York; Secretary-Treasurer, Robert Lawder, Consolidated Edison Company, New York.

It was also decided to hold a summer conference at Union, New Jersey (tentatively scheduled for Friday, July 28) and the manufacturer's representatives would be invited to attend.

The formal program consisted of a discussion on the various methods employed to make house heating surveys and cost estimates. This discussion was led by Mr. Edward Gerridge of the Brooklyn Union Gas Company and the subject proved to be of such interest to all present, that it was decided to appoint a committee consisting of three members with Mr. Gerridge as Chairman to study the various methods of estimating used by member companies, with the purpose of devising a uniform method of surveying and estimating which could be adopted for use by the Council.

M. E. Shea Elected President Roanoke Gas Co.

At a recent meeting of the newly elected board of directors of the Roanoke Gas Company, held in Roanake, Virginia, Michael E. Shea, of Lynchburg, was elected president and manager of the company. W. J. McCorkindale, who has served as valuation engineer since his retirement as company manager in 1936, was appointed as assistant to the president.

Michael E. Shea

These announced changes in management were made shortly after the purchase of the company by the investment banking firm of Scott, Horner & Mason, Inc., of Lynchburg. The transaction was completed with representatives of Stone & Webster Service Corporation which formerly managed the Roanoke Company.

Shea was general superintendent of the Roanoke Gas Company from 1933 to 1938. In '38 he accepted an appointment to the Securities Exchange Commission in Washington, remaining until 1941 at which time he became assistant to the president of the Atlantic Seaboard Corporation, a natural gas pipeline and holding company of the Columbia Gas & Electric System.

At the outbreak of the war he became director of the Fuels and Utilities division of the War Production Board.

Officers elected in addition to Shea include W. P. Hazelgrove, vice president; Arthur T. Ellett, secretary and treasurer; Ruth F. Murphy, assistant secretary, and B. S. Williamson, assistant treasurer.

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VETERAN EMPLOYEES OF IOWA PUBLIC SERVICE CO.

Veteran Employes of Iowa Public Service Co. Honored

Twenty-six employes who have been with the Iowa Public Service Co., Waterloo, Iowa, more than 30 years—one of them, Joe B. Burge, being a 50-year veteran—were honored at a dinner June 11, tendered them by their company.

Burge, foreman of the gas meter shop, received his 50-year pin from H. M. Smith, assistant general manager, who himself has been an employe of the company since Jan. 1, 1906.

Burge has been employed continuously by the Waterloo Gas & Electric Co., and its successor, the Iowa Public Service Co., since May 30, 1894, when he started by digging ditches for pipe, reading meters, installing appliances, attending to service complaints, and caring for 27 carbon arc lamps.

Forty-year men honored were Fred Moore, now retired, and M. C. Christensen, division accountant.

Employes of the company during 30 to 39 years, honored at the dinner, were:

Art Colby, service department clerk; C. J. Bender, retired; Ben Brown, service department superintendent; M. M. Smith, meter repairman; Mike Galvin, senior salesman; W. E. Taylor, district manager; Dan Coughlin, meter reader; Martin Christensen, fitter; W. H. Lawrie, chief engineer; J. E. Baish, gas "trouble" man; Frank Jenkins, gas "trouble" man; Pat Meany, arc man; M. W. Oman, underground foreman; John Knudsen, superintendent street department; Pearl Johnson, local manager; Carl Venter, fitter; J. P. Lindquist, Nashua manager; M. E. Wall, senior salesman; J. E. Smith, retired; H. P. Haffa, meter department foreman; Al Trudgian, warehouse and garage clerk; R. C. Hackney, repairman, and Charles Wilson, meter reader.

The group attending the dinner organized a Thirty-Year club, to which all employes of the company with long service will be admitted.

Officers of the club chosen were Ben Brown, president; M. C. Christensen, secretary; Joe Burge, H. P. Haffa and J. P. Lindquist, directors.

R. A. Wehe Appointed To California R.R. Commission

Roy A. Wehe has been appointed Assistant Director of Public Utilities of the California Railroad Commission. In this position the Assistant Director is normally responsible for the planning and conducting of major formal and informal rate investigations of gas, electric, telephone, telegraph, and water companies, and for other special investigations as assigned. In addition to assisting the Director, the Assistant Director will have general responsibility, in the absence of the Director, over all the work of the Public Utilities Department.

Mr. Wehe has been employed as an engineer on the Commission's staff since 1923, and since January 1, 1937, has been Gas and Electrical Engineer for the Commission. Prior to coming with the Commission, he was employed on the hydro electric projects of the Southern California Edison Company. He is a graduate of the University of North Dakota in Electrical Engineering, and has two years post-graduate work with the Massachusetts Institute of Technology.

The New England Gas Industry

Hall M. Henry, President New England Gas Association, in a summary on the status of the New England gas industry, states

"The New England gas industry is today selling the largest volume of gas in its history. This larger volume is the result of progress made in selling gas for kitchen and house heating prior to the war, coupled with a many-fold expanded use of gas in vital war industries, a significant record of achievement. The industry expects to find an even greater post-war use of gas for all purposes, especially for kitchen heating, house heating, air conditioning and other important uses in industrial plants.

"To enable the New England gas industry to better serve the public post-war, The New England Gas Association is doing a number of things. It is holding conferences of company managers, sales managers, production and distribution engineers, and accounting, home service, servicing, commercial and industrial personnel to develop the important problems facing the industry, to exchange ideas and data looking to a lowering of production and distribution costs, to improve selling techniques and to render a better service to the public. One of its committees has made a comprehensive appliance survey to determine desirable improvements in all appliances. The New England companies have sponsored a research project to produce a three-purpose range—one that cooks, furnishes hot water and heats.

"In addition, a study of promising research activities looking to new and lower investment cost production equipment and lower operating and distributing costs is under way at the Institute of Gas Technology in Chicago. At the American Gas Association laboratory, appliance utilization research looking to improving appliances is going forward with more than double the research appropriation of the past.

"It is evident that, while the industry was making excellent progress toward public acceptance of gas for kitchen and house heating and other newer uses prior to the war, and while it has demonstrated in a striking manner the value of gas to industry during the war, it is not resting on past performance but is proceeding realistically to find better and more economical methods for using gas to lower gas production and investment costs."

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Fourteen Laboratories' Engineers Active On Fighting Fronts

With the invasion of Europe from England well under way and fighting on all fronts increasing, a check of the 51 former engineers of the American Gas Association Testing Laboratories now in the armed services discloses that at least 14 are actively engaged in combat land or sea operations. Eight are in the European area, 3 in the Pacific, and 3 on the high seas.

In the European Theater are Major Edward T. Othman, Captain John D. Martin, Lieutenant Carl F. Geltz, Frank E. Hodgdon, Don F. Leverett, and Howard L. McPherson, Private John Gallo and David G. Willich T/5. Major Othman and Lieutenant Geltz are in engineering units. Captain Martin is attached to amphibious tank forces. Lieutenant Leverett is a specialized training instructor and has been on several fronts.

Captains Charles G. Allen and Robert T. Hlavin along with Lieutenant Frederick C. Johnston are in the Pacific zone. Captain Allen has been in England, Africa, Italy ,and India while Captain Hlavin was recently awarded the Bronze Medal.

On the high seas are Navy Lieutenants Howard C. Clark, Walter E. Gay, and Frank E. Pryatel. Clark and Gay have been on Atlantic convoy duty and also saw action in the Casablanca engagement.

At home, word comes that Major Bruce A. McCandless of the field artillery is on sick leave while Lieutenant Commanders Robert B. Kleinhans and John B. Heinicke are instructors at Annapolis.

Bituminous Coal Uses Presented in Graphs

Issued by Bituminous Coal Institute, 60 East 42nd Street, New York 17, a 24 page brochure presents in graphic form the industrial importance of coal in the nation's industry.

Production, utilization by industries, coal by-products and wage standards in basic industries are among the eighteen graphs presented.

Copy may be had by writing the Institute.

Army and Navy Officials and the representatives of American Stove Company receive the Army-Navy "E" Flag. Left to right: Commander Premo, Major Gatley, Mr. Segedin, President Stockstrom, Lt. Col. Coward.

Quick Meal Division of American Stove Wins Army-Navy "E" Award

For "excellence in the production of war materiel" Quick Meal Division of American Stove Company, St. Louis, Mo., has been awarded the Army-Navy "E" Pennant.

During impressive ceremonies, the firm was given special praise for speed and versatility displayed in switching from the peacetime production of gas ranges to the production of high explosive shells, heavy demolition bombs, small fragmentation bombs, auxiliary gas tanks for airplanes and parachute flares.

Arthur Stockstrom, who began with American Stove as a foundry molder in 1914 and is now President, accepted the "E" pennant from Lt. Col. Richard W. Coward, Chief Executive Officer of the Army's St. Louis Ordnance District.

This award was one of four received almost simultaneously by American Stove Company. The other three included The U. S. Treasury "Minute Man" Flag, awarded to The Aircraft Division, Cleveland; The National Security Emblem to The Quick Meal Division; and a letter of commendation from General Arnold.

Payne Furnace & Supply Co. Elects Officers

The directors of Payne Furnace & Supply Company, Inc., Beverly Hills, Calif., announced the election of officers at their quarterly meeting June 7th, as follows: President, El Roy L. Payne, former vice-president and general manager, succeeding the late Daniel W. Payne, his father; and, as vice-president, John H. Keber, former manager of the wholesale sales division. Joe H. Wilson, who continues as treasurer, was also appointed a director, and Ruby M. Sorber continues as secretary of the Company.

A difficult and taxing winter has been met by the gas man.

May we wish all of you a well-earned and happy vacation.

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Twenty Manufacturers To Make CP Gas Ranges

The announcement that the A. J. Lindemann & Hoverson & Company, Caloric Gas Stove Works, Gurney Foundry Company, Ltd., Roberts & Mander Stove Company and Western Stove Company will make gas ranges meeting Certified Performance specifications, brings to 20 the number of manufacturers who will build postwar gas ranges bearing the CP Seal. These 20 manufacturers produced approximately 50 per cent of the 2,300,000 gas ranges made in 1941. In a cooperative campaign, CP manufacturers are pointing out to dealers the profit possibilities in selling gas ranges bearing the CP Seal.

The other manufacturers included in this group are: A-B Stoves, Inc., American Stove Co., Clare Bros. & Co., Ltd., Cribben & Sexton Co., Detroit-Michigan Stove Co., The Estate Stove Co., Glenwood Range Co., James Graham Mfg. Co., Grand Home Appliance Co., Hardwick Stove Co., Moffats, Ltd., O'Keefe & Merritt Co., Geo. D. Roper Corp., Standard Gas Equipment Corp., The Tappan Stove Co.

Dresser Industries Acquires Control of International-Stacey Corp.

Dresser Industries, Bradford, Pa., will acquire financial control of International-Stacey Corp. of Columbus, Ohio, and subsidiaries in a step designed "to enlarge postwar participation in oilfield equipment potentials."

The announcement of H. N. Mallon, president of Dresser, followed a meeting June 30th of International-Stacey directors in Columbus approving the transaction. Dresser directors, meeting in New York on June 23, had previously signified approval.

Dresser and International-Stacey stockholders will be asked to ratify the agreement in special meetings to be called soon. No changes in management or personnel of International-Stacey companies are involved or contemplated.

International-Stacey and subsidiaries, a group of six companies, is a leading manufacturer of oilfield drilling and production equipment sold under the trade name "Ideco." Dresser Industries, with seven companies in its group, supplies related equipment to the oil industry.

Stevens Institute Confers Degrees

Honorary degrees were conferred by Stevens Institute of Technology at its 72nd Commencement on June 27th. The degree of Doctor or Engineering was given to Charles R. Hook, President of the American Rolling Mill Company, Middletown, Ohio, and John B. Klumpp, Consulting Engineer, of Philadelphia.

Mr. Klumpp is nationally known as a consulting engineer in the gas industry and has participated in the planning and operation of gas plants in many American cities. He has also served the U. S. Bureau of Standards on the subject of gas standards in this country, representing the American Gas Association and the American Gas Institute. During the first World War he was a consultant of the Council of National Defense. He came to Philadelphia as consulting engineer of utilities there in 1939.

A. H. Kruger Joins Wheelco Company

A. H. Kruger, associated with the industrial heating and processing industries for the past 19 years, has joined Wheelco Instruments Company, Chicago, as application engineer, it has been announced by Richard Schoenfeld, vice-president in charge of sales.

A. H. Kruger

Kruger will be engaged primarily in introducing to the industrial heating and processing industries the Wheelco company's new line of Inputrol and Throttltrol instruments. He was among the first to apply automatic temperature and furnace pressure controls to industrial furnaces and boilers.

Estate Stove Co. Announces New Sales Policy

A new postwar distribution policy, which calls for selling exclusively through wholesale specialty distributors, was announced recently by officials of The Estate Stove Company, Hamilton, Ohio.

Termed a "tooling up of its distribution machinery for postwar selling" by Stanley C. Bernhardt, Vice President in charge of Sales, this new distribution policy, according to Bernhardt, is the result of many months of study, scores of interviews with many dealers and distributors, thorough analysis of production and distribution costs, and charting of every significant trend in the industry and in the national economy.

An important part of the program, Mr. Bernhardt adds, is greatly increased production, so that the factory's expanded facilities may be fully utilized but with concentration on a small number of models in each line.

Dealer reaction to the new selling setup is expected to be universally favorable, according to Bernhardt. "Full dealer mark-ups will in no way be affected, and the closer merchandising cooperation, the faster, more convenient service which a close-by distributor alone can offer will be welcome."

It was also emphasized that as much a part of Estate plans as those on the blueprints are national advertising and merchandising programs on a greatly increased scale over those preceding Estate's switch to war work production.

D. R. Schively with Hartford Gas Company

Donald R. Schively has been appointed Manager of Sales Promotion of The Hartford Gas Co., Hartford, Conn., effective as of August 1st.

Mr. Schively has been connected with the appliance industry for 17 years, serving as a refrigerator distributor, manufacturer's district manager, Utility Association field promotion manager, and appliance merchandising consultant.

During the past two years he has been Appliance Merchandising Consultant in Hartford, serving was and electric company clients in Connecticut on appliance merchandising, advertising and relations.

P. C. G. A. Announces Annual Meeting

President Payne announces that the 51st Annual Meeting of the Association will be held in Los Angeles September 13 and 14. All meetings will be held at the Ambassador Hotel. It will be another war-time meeting, streamlined to those essential items of business which must be done and to those few frills of information and inspiration for the benefit of industry morale and efficiency which can be added.

Frank C. Packer, Payne Furnace and Supply Company, will be in charge of the arrangements.

Silicon Carbide Refractories

A series of buleltins entitled "Handling Heat," issued by Norton Company, Worcester, 6, Mass., deal with the uses of Crystalon brick and refractory cements. Nos. 5 and 9 feature boiler linings, No. 10 deals with characteristics of Crystalon and cements for laying, No. 12 shows various applications including use in gas generators, No. 14 covers general application and illustrates standard straights, splits, soaps, arch and wedge in which Crystalon is furnished. Bulletins mailed on request.

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Now has the "Z" handle for easy manipulation. When locked in place it holds. Stopper cannot slip. Gas cannot pass. Adjusted in 30 seconds.

Ask for circulars on this and other distribution equipment.

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The Reliable Shut-Off for Street Mains

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523 Atlantic Avenue, Brooklyn, New York

JOE H. GILL

Joe H. Gill, president and chairman of the board of Electric Power and Light Corporation and president of its subsidiary, United Gas Corporation, which operates a natural gas system throughout the southwestern part of the United States, died yesterday at his residence, the Hotel Russell, Park Avenue and Thirty-seventh Street. He was fifty-eight years old.

A native of Kerrville, Tex., Mr. Gill was graduated as an electrical engineer from the University of Texas in 1910.

After serving two years with the General Electric Company at Schenectady, Mr. Gill joined the Texas Power and Light Company, in Dallas, as an engineer, remaining there until 1917.

From October, 1917, to December, 1918, Mr. Gill served the government as head of electrical design and layout of the power equipment for the American Ordnance Base Depot, in France, meanwhile entering the Army with a first lieutenant's commission. At the end of the war he served as an instructor in the Officers Training Camp at Fort Monroe, Va.

Following the war, Mr. Gill joined the Dallas Power and Light Company, ultimately advancing to assistant to the general manager. In 1925 he went to Florida to assist in the development and acquisition of the properties which ultimately became those of the Florida Power and Light Company. He was named vice-president of this company in 1925 and became president and general manager in 1929.

In 1933 Mr. Gill was brought to New York by the Electric Bond and Share Company, to act as senior operating sponsor of those utility properties in the Electric Bond and Share system which were located in the southeastern area of the United States.

Long recognized as a leader in the electric and natural gas industries, Mr. Gill had supervised development and refinancing of subsidiary companies of Electric Power and Light Corporation for many years.

THEODORE J. WEBER

Theodore J. Weber, identified with public utilities in Grand Rapids and Cadillac, Michigan, for many years died May 2nd at his winter home in Clearwater, Fla., in his 71st year.

For several years until his health failed, he had owned and managed the Cadillac Gas Company and had been connected with Grand Rapids for nearly 40 years.

Mr. Weber was a native of Switzerland, where his father was a public official. The family had been interested in public utilities and a brother of Mr. Weber, an engineer, built the Tokyo gas works.

Theodore J. Weber studied medicine in Switzerland and received his medical degree there and served as an interne in New York and New Jersey.

He also had received training as an engineer and, shortly after he completed his medical interneship, became associated with public utilities and spent the rest of his life in this field.

His first position was with a New York utility and from there he came to Pontiac, where he was superintendent of the gas plant under Harry D. Walbridge, well known in Michigan public utilities.

In 1907 he became associated with the Childs-Hulswit Company. Later when this firm developed into the United Light and Power Company he was identified with the latter concern as vice president and engineer and had his offices in Grand Rapids for a time and later in Chicago.

He left this firm about 16 years ago and bought from it the Cadillac Gas Company and owned and managed this firm for several years before selling it to the National Utilities Company of Michigan. In recent years, he has been a consulting gas engineer.

P. B. WISKE

P. B. Wiske, 56, sales service manager of Servel, Inc., Evansville, Ind., died of a heart attack June 5 while attending the Western section meeting of the Liquefied Petroleum Gas Association in Denver, Colorado.

P. B. Wiske

Mr. Wiske, who has been associated with Servel as a retail stores manager, regional sales manager, and sales service manager, came with the company January 1, 1932. He was formerly associated with the Brooklyn Union Gas Company. Before coming to Evansville to make his home in 1934, Mr. Wiske lived in Bronxville, New York.

Worthington Appoints T. J. Kehane Commercial Vice President

Worthington Pump and Machinery Corporation has announced the appointment of Thomas J. Kehane, of East Orange, New Jersey, as commercial vice president in charge of the Corporation's Pacific Coast activities. Mr. Kehane will make his headquarters in new offices to be opened July 1 at San Francisco. He will likewise supervise the Corporation's business in the territory served by its Salt Lake City district office.

G. S. Jones Jr. of Servel Elected President of National Sales Executives

Geo. S. Jones, Jr., vice-president in charge of sales at Servel, Inc., was elected president of the National Federation of Sales Executives recently in their second wartime conference at the Edgewater Beach Hotel in Chicago.

George S. Jones Jr.

Mr. Jones, who has served on the board of the Federation for several years succeeds Harry C. Anderson of the A. B. Dick Company of Chicago, who became chairman of the board.

A graduate of Georgia Tech., in 1922 he became associated with the Georgia Power Company of Atlanta, Georgia. In 1924 he resigned to become sales manager of the Texas Power and Light Company in Dallas, and a year later was made assistant general manager of the Dallas Power and Light Company.

After nine years in the public utility business, Mr. Jones resigned as assistant general manager of the Dallas Power and Light Company to be regional manager for Frigidaire Corporation in the Southwest. In 1933 he became associated with Servel, Inc., as regional manager at Dallas.

In 1936 he was appointed vice-president and general sales manager for Servel, and since that time he has been located in Evansville, Ind., at Servel headquarters.

Mr. Jones is also active in the affairs of the American Gas Association, the Association of Gas Appliance and Equipment Manufacturers, and the National Association of Manufacturers.

Payne Furnace Wins Another Army-Navy Award

Payne Furnace & Supply Co., Inc., Beverly Hills, Calif., has won, for the second time, the Army-Navy Award for meritorious services on the production front and the right to add the "White Star" to its "E" flag, according to notification from Under Secretary of War Patterson to E. L. Payne, president of the Company.

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Worthington Pump and Machinery Corp. .... —

Schanuel Executive Secretary Indoor Climatic Institute

Arthur E. Schanuel has been appointed Executive Secretary of the Indoor Climate Institute effective as of July 1st, according to an announcement by P. B. Zimmerman, President of the organization. Mr. Schanuel resigns the position as Secretary of the National Electrical Manufacturers Association to assume his new duties. He is a former newspaper and advertising man and has a wide acquaintanceship throughout the building and public utility fields. The headquarters of the I. C. I. is Penobscot Bldg., Detroit, Mich.

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Floor furnaces, Basement Furnaces, Space heaters, console heaters large national manufacturing concern has excellent opening for an engineer capable of taking charge of design and development of complete line of products mentioned. Please write giving complete personal data and experience. Address Box 135 c/o AMERICAN GAS JOURNAL, 53 Park Place, N. Y. C. 7, N. Y.

FOR SALE

The following items in good usable condition:

One 7' generator shell made in 1940 by Semet-Solvay Company.

One design #4 size #6 Sturtevant blower with type B6 steam driven turbine all on one base.

One design #4 size #5 Sturtevant blower with type B5 steam driven turbine on separate bases.

Apply to The Newport Gas Light Company, Newport, Rhode Island.

McCarter Award to Fitter of Phila. Gas Works

Prompt application of artificial respiration won a McCarter Award for Thomas J. Lawler, a fitter in the Customers Service Department. The presentation took place at a meeting of the President's Staff on May 26, 1944. Mr. H. D. Lehman, Manager, C. S. D., introduced the candidate and read the following citation:

Thomas J. Lawler

"Thomas J. Lawler, Fitter, Customers Service Department, on November 7, 1943, while investigating an order of gas leak in a West Philadelphia house, found a woman overcome by gas escaping from an unlighted top burner of a gas range.

"After instructing a neighbor to call for assistance, Lawler applied the Schafer Prone Pressure Method of Resuscitation. In about 30 minutes, the patient had nearly resumed normal breathing, at which time she was removed to a hospital for further treatment.

"As a result of prompt and efficient treatment administered by Mr. Lawler, the woman resumed her normal activities within a few days."

This marked the 63rd presentation to a P. G. W. employee since the McCarter Award was first offered in 1924.

37th Annual Convention of the Canadian Gas Association

The Canadian Gas Association held a one-day meeting June 8th at Hamilton, Ont. The discussions centered around the "Report of Post-War Planning Committee," J. D. von Maur, Chairman. Officers elected for ensuing year are:

President—Alan H. Harris, Jr., Manager Gas Utility, Winnipeg Electric Company, Winnipeg, Man.

1st Vice-Pres.—W. C. Philpot, General Supt., Gas Works, Consumers' Gas Co., of Toronto.

2nd Vice-Pres.—Thos. Weir, General Manager, Union Gas Company of Canada, Ltd., Chatham, Ont.

Appliance Financing

(Continued from page 28)

A plan somewhat different has been in operation by us for a number of years, and I would like to touch upon it briefly for just a moment, inasmuch as this particular plan seems to appeal to certain types of utilities who have not had experience in collecting dealers' paper, and who are somewhat cost-conscious, so much so, in fact, that they would much prefer to have a stated amount paid to them for making the collections and for setting up the accounts on their books. A number of utilities throughout the country are operating on a stated fee basis, which fee varies from 10 cents to 12 cents a collection, with $1.00 being paid to the utility to offset the cost of setting up the account. Through this plan the utility is in a position to accurately determine in advance how much compensation they will receive for making collections on the dealers' paper, but I would not advise any utility to accept this plan if the other plan mentioned were available, as while the compensation under the first plan would be undetermined, (in view of the losses which would be charged against the reserve credited to the utility's account), nevertheless there is a strong possibility that the utility will profit immeasurably by accepting the first-suggested plan.

An Adaptable Plan

We, however, are very happy to consider either one of these two plans, and are perfectly willing to pay the utility an agreed amount for making these collections and for the set-up charge, retaining the reserve in our possession, from which we will pay losses, and any reserve remaining in that case would belong to us. I am merely mentioning this as I know that some utility executives prefer to have a stated amount paid to them when the collections are made, rather than to take the chance which they would be taking were they to participate in the reserve account after losses. I hope I have made myself clear in this respect, and if not, I will be very glad to enlarge upon it, should anyone be interested in that particular type of a proposal.

I don't claim that the proposal made to you is perfect, as it is not, as in many cases it might have to be changed to meet local conditions which may be somewhat different in various sections of the country, but these changes can be readily made, and the plan can be adapted to meet almost any condition in almost any part of the country—I am merely quoting this plan as one which, in my humble judgment, is what I might say a composite of the better points of all of the plans thrown together into one plan.

For example, I might state that if that gas company wished to take on the passing of credits and repossessing, and follow the collections through, that we would be most happy to give the gas company all of the finance charge, we merely retaining a low interest rate on our money. This could apply either on dealers' paper or on paper owned by the utility company itself. The liability which we would ask probably would not exceed over 10% or 15% of the aggregate purchases—it might be that a plan of this kind would have more appeal than the plan which I have outlined to you. That is entirely up to the gas company itself.

Presented by the author before the Sales Conference Section, Southern Gas Association, New Orleans, Louisiana, March 22, 1944.

Dr. Sebastian Appointed to Research Staff of Institute of Gas Technology

Dr. John J. S. Sebastian has been appointed to the research staff of the Institute of Gas Technology at Illinois Institute of Technology, it has been announced by Prof. John I. Yellott, director of the Gas Institute.

Dr. Sebastian will serve as associate supervisor of the coal and gasification research section. He will be in general charge of research on fluidized gas generation, upgrading of low Btu gas, and related projects.

He has had 18 years' experience in research work. He was research associate in the coal research department at Carnegie Institute of Technology 11 years. Earlier in his career he worked as research engineer for the Koppers Company at Mellon Institute, Pittsburgh, Pa., and as assistant chemist for the Interlake Iron Corporation, Chicago.

Among the outstanding technical papers Dr. Sebastian has prepared have been: "Changes in Properties of Coking Coals Due to Moderate Oxidation During Storage." "Coal Storage: Effect of Oxidation and Heat on the Analysis of Bituminous Coal." "The Reactivity of Coke: Its Determination by Means of a Modified Ignition Point Method," and "Measurement of the Reactivity of Bituminous Coals."

Dr. Sebastian is a graduate of the Royal Polytechnic Institute of Budapest. He received his doctor of science degree at Carnegie Tech.

Spark Ignition

A new device has been developed by the Bureau of Mines for determining just how potent an electric spark must be to ignite explosive mixtures of gases and vapors.

Extremely versatile, the apparatus permits studies of the influence of spark length, shape, size, and material of electrodes, gas density, additions of inhibitive or sensitizing gases, changes in circuit constants, and other effects. With slight modifications and suitable auxiliary equipment, direct comparisons can be made of the ignitability of different types of sparks—sparks which follow a gradual rise of potential, prolonged sparks or discharges, impulse sparks, rapidly recurring sparks, and "wipe" sparks.

Construction of the apparatus and descriptions of its use are included in a new publication released by the Bureau.

A copy of the publication, Report of Investigations 3753, "Apparatus for Determining the Minimum Energies for Electric Spark Ignition of Flammable Gases and Vapors," by P. G. Guest, may be obtained by writing the Publication Section, Bureau of Mines, Department of the Interior, Washington 25, D. C.

Union Carbide Elects Presidents of Subsidiaries

Dr. Joseph C. Davidson has been elected President of Carbide and Carbon Chemicals Corporation and Carbide and Carbon Chemicals, Ltd.

James W. McLaughlin is the new President of the Bakelite Corporation.

Stanley B. Kirk becomes President of The Linde Air Products Company, The Prest-O-Lite Company, Inc., Dominion Oxygen Company, Ltd., and Prest-O-Lite Company of Canada, Ltd.

Arthur V. Wilker has been elected President of National Carbon Company, Inc., and Canadian National Carbon Company, Ltd.

Francis P. Gormely has been elected President of Electro Metallurgical Company, Electro Metallurgical Company of Canada, Ltd., Haynes Stellite Company, Michigan Northern Power Company, and Union Carbide Company of Canada, Ltd.

John D. Swain has been elected President of Electro Metallurgical Sales Corporation.

John R. Van Fleet becomes President of United States Vanadium Corporation.

National Gas Burners

Mid-Continent Metal Products Co., 122 So. Michigan Ave., Chicago 3, announces that they are now the sole manufacturers of the industrial gas burning equipment formerly manufactured by National Machine Works of Chicago.

S. K. Zitzewitz is president and E. J. Haedike is secretary of the gas burner Division of the Company.

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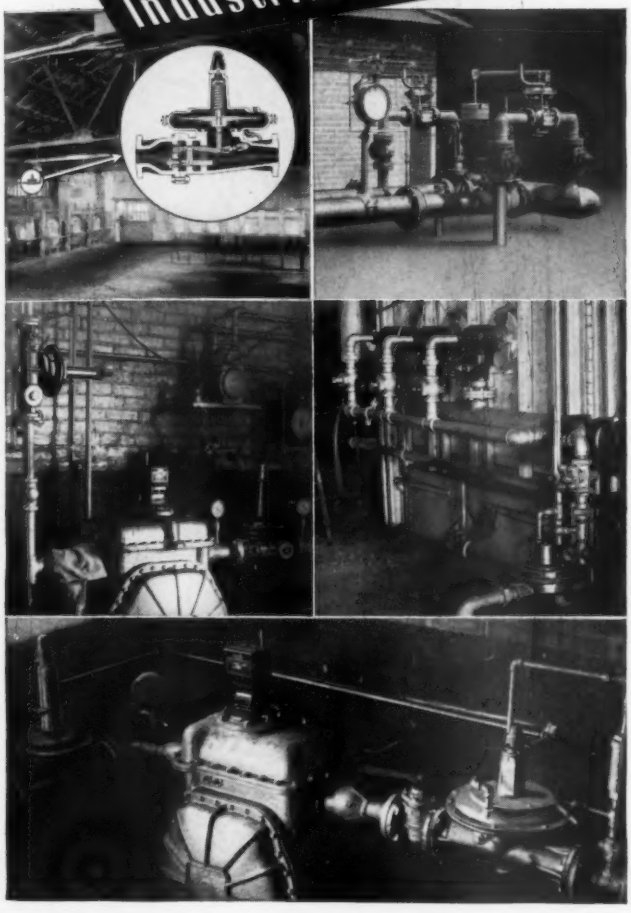

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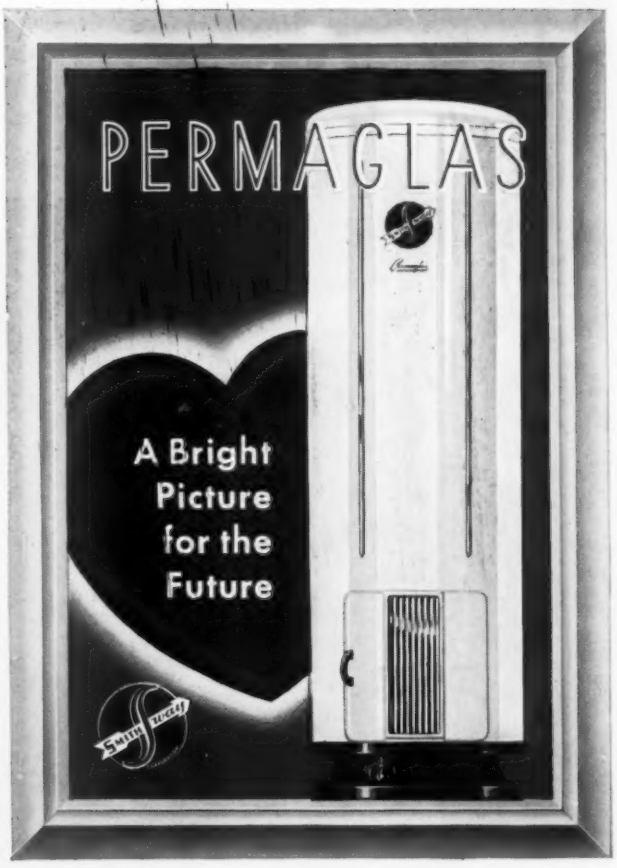

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